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Minimum DB seq length: 0
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Listing first 45 summaries
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                                                                                       A Geneseq_23Sep04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
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118.029 Million cell updates/sec
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SUMMARIES

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Aam79111 Human pro		Aab81987 Gangliosi	Abo71592 Pseudomon	Adn46873 Thermococ	Aab96839 Putative	Abg28979 Novel hum		Aab81977 Gangliosi		Aay28369 pKM641 HA		Aar33256 Rat immun	Abm71799 Staphyloc	Abu43645 Protein e		Abr83238 S. aureus	Abr83239 S. aureus	Abull010 Modified		Aab81989 Gangliosi	Aab81985 Gangliosi	Aab14979 Staphyloc	Abull004 Modified	1979	Description

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Sequence 5 AA;

Query Match 100.0%; Score 28; DB 4; I Best Local Similarity 100.0%; Pred. No. 1.7e+06; Matches 5; Conservative 0; Mismatches 0;

Length 5; Indels

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Gaps

PT New human type complementation-determining regic pr and derivatives against ganglioside GD3, useful pr of e.g. tumors, with low antigenicity, little sipr activity in cancer. XX PS Claim 5; Page 141; 183pp; Japanese. XX PS Claim 5; Page 141; 183pp; Japanese. XX CC The present invention describes a monoclonal ant CC specifically with ganglioside GD3. The antibody CC useful in the diagnosis and therapy of tumours, CC diagnosis. The present sequence is a protein use CC of the invention	06 (K	cancer. Mus musculus. W0200123432-A1. 05-APR-2001. 29-SEP-2000; 2000WO-JP006774 30-SEP-1999; 99JP-00278291	RESULT 1 AAAB81979 ID AAB81979 standard; peptide; 5 AA. XX AC AAB81979; XX DT 03-JUL-2001 (first entry) XX C Ganglioside GD3 specific antibody related peptide	26 28 100.0 1270 4 AAM80095 27 28 100.0 1669 4 ABB63980 28 25 89.3 50 3 AAB34620 29 25 89.3 76 4 AAO03185 31 25 89.3 113 6 ADB07666 32 25 89.3 114 4 AAG81907 34 25 89.3 116 4 AAG81907 35 25 89.3 116 4 AAG81907 36 25 89.3 117 6 ADB07668 37 25 89.3 117 6 ADB07668 38 25 89.3 117 6 ADB07668 39 25 89.3 117 6 ADB07668 39 25 89.3 117 6 ADB07668 40 25 89.3 150 7 ADB94081 40 25 89.3 150 7 ADB94081 40 25 89.3 164 4 ABG21786 41 25 89.3 164 4 ABG21786 42 25 89.3 181 5 AAG66026 43 25 89.3 191 5 AAG66026 44 25 89.3 191 5 AAG66025 44 25 89.3 214 6 ADB10122
ing region-transplanted antibody, useful in diagnosis and therapy little side effects but potent lonal antibody which can react antibody and its derivatives are tumours, particularly cancer otein used in the exemplification			de SEQ ID NO; 3.	Aam80095 Human pro Abb63980 Drosophil Aam97232 Human pep Aab34620 Human pep Aab34620 Human pol Aa003855 Human pol Aa003855 Human pol Ad007666 Alloiococ Aag81907 S. epider Abu49557 Protein e Adb07674 Alloiococ Adb07678 Alloiococ Adb07678 Alloiococ Adb07678 Novel sig Adu417373 Novel sig Adb94081 Human nov Abg21786 Novel hum Aag66027 Ryk prote Aag66027 Ryk prote Aag66025 Ryk prote Aag66026 Ryk prote Aag66027 Alloiococ

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Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a peptide associated with the anti- ganglioside GD3 antibody
                    AcpS; phosphopantethienyl transferase; antibacterial;
Helicobacter pylori; stomach cancer; ulcer; gastritis
                                                                                                     Staphylococcus aureus phosphopantethienyl transferase protein AcpS
                                                                                                                                                                      01-DEC-2000
                                                                                                                                                                                                                            AAB14979;
                                                                                                                                                                                                                                                                                    AAB14979 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence is the Staphylococcus aureus phosphopantethienyl transferase family protein AcpS. The DNA encoding this sequence was isolated from a Staphylococcus aureus DNA library. The AcpS protein and its agonists, antagonists or nucleic acids may be used to treat individuals that are in need of enhanced or inhibited activity or expression of the protein, or an immunological response to it. They may also be used to detect and treat microbial diseases, such as Helicobacter pylori infections that cause stomach cancer, ulcers and gastritis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ganglioside
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                         WPI; 2001-266143/27
                                                                             Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ganglioside; GD3; complementarity determining region; CDR; antibody;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated Staphylococcus aureus polypeptide, referred to as AcpS, itreating or diagnosing individuals with a disease in need of enhanced inhibited activity or expression of the polypeptide.
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N-PSDB; AAA73679.
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06-APR-2000; 2000JP-00105088.
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                                                                             Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GD3 specific antibody related protein SEQ ID NO:
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activity
                                                                                                                 The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
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of e
                                                                                                                                                                                                                              New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes a monoclonal antibody which can react specifically with ganglioside GDJ. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                          Sequence
                                                                                                                                                                                               Claim 10; Page 173-174; 183pp; Japanese.
                                                                                                                                                                                                                                                                                                                                         Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                         06-APR-2000; 2000JP-00105088
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ganglioside; GD3; complementarity determining region; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ganglioside GD3 specific antibody related protein SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human type complementation-determining region-transplanted antibody derivatives against ganglioside GD3, useful in diagnosis and therapy e.g. tumors, with low antigenicity, little side effects but potent
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                                                                                                       invention
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ilarity 100.0%; Pred. No. 79
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Best Local Similarity
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                                                                 Modified ganglioside GD3 antibody associated protein
                                                                                              04-FEB-2003
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                                        GD3; anti-ganglioside
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                                        antibody; tumour; melanoma.
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Best Local S
Matches 5
  24-SEP-2001;
01-OCT-2001;
03-OCT-2001;
24-OCT-2001;
25-OCT-2001;
26-OCT-2001;
26-OCT-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                         Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Streptococcus pneumoniae; Helicobacter pylori; Pseudomonas aeruginosa; membrane biosynthesis; crystal form; antibacterial; crystal structure; immunological response; vaccination; ftsZ; fabZ; fabG; acpS; murD; mur
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Crystallised recombinant polypeptide; Staphylococcus aureus;
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2001US-0324504P.

2001US-032686PP.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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Best Local
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21-DEC-2001; 2001US-0344307P.
27-DEC-2001; 2001US-0343946P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel crystallized recombinant polypeptides from Staphylococcus aureus, Streptococcus pneumoniae and Helicobacter pylori and which are involved in membrane biosynthesis, useful as targets for pathogenic bacteria.
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M, Necakov S,
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ilarity 100.0%;
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Houston S, Kanagarajah D, Li
Ng I, Pinder B, Sheldrick B,
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Crystallised recombinant polypeptide; Staphylococcus aureus; vaccine; Streptococcus pneumoniae; Helicobacter pylori; Pseudomonas aeruginosa; membrane biosynthesis; crystal form; antibacterial; crystal structure; immunological response; vaccination; ftsZ; fabZ; fabG; acpS; murD; murO;

WO2003027139-A2 Staphylococcus aureus

24-SEP-2002;

2002WO-CA001443

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RESULT 10
ABU16272
ID ABU16
XX
AC ABU16
XX
DT 19-JU
DT 19-JU
DX
DE Prote
XX
Antis
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                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                            The present invention describes a crystallised recombinant polypeptide (C (I) comprising amino acid sequence of polypeptides from Staphylococcus caureus, Streptococcus pneumoniae, Helicobacter pylori and Pseudomonas C aeruginosa and which are involved in membrane biosynthesis, or amino acid sequences having at least 90 % identity with the polypeptide sequence, combere the polypeptide is in crystal form. (I) has antibacterial activity can can be used in vaccines. (I) is useful for designing a modulator for the prevention or treatment of S. aureus, H. pylori, S. pneumoniae, and c g. aeruginosa-related disease or disorder. (I) is also useful for c destigning a mall molecules that bind to a recombinant polypeptide. The structural and functional information of (I) aid in the discovery and c design of therapeutic and diagnostic molecules. The crystal structure is useful to make a structural or computer model of the polypeptide, complex cor its portion. (I) can be used for inducing an immunological response in c individual and as an antigen for vaccination of absteria, for c example by blocking adherence of bacteria to damaged tissue. ACF06185 to ACF06232 and ABR83203 to ABR83333 represent sequences used in the
                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                      Query Match
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24-OCT-2001;
25-OCT-2001;
26-OCT-2001;
26-OCT-2001;
26-OCT-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel crystallized recombinant polypeptides from Staphylococcus aureus, Streptococcus pneumoniae and Helicobacter pylori and which are involved in membrane biosynthesis, useful as targets for pathogenic bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-441048/41.
N-PSDB; ACF06197.
                                                                                                                                                                                                                                                                                                                       Sequence 119 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Canadien V, Domagala M Mcdonald M, Necakov S, Viola C, Wrezel O;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Edwards A,
Antisense; prokaryotic essential gene; cell proliferation; drug design
                             Protein encoded by Prokaryotic essential gene #1799.
                                                              19-JUN-2003
                                                                                           ABU16272
                                                                                                                       ABU16272 standard;
                                                                                                                                                                                                                                                                                                                                                  exemplification
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Domagala M,
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2001US-0326269P
2001US-032688PP
2001US-0339560P
2001US-03397471P
2001US-0340002P
2001US-0340002P
2001US-034002PP
2001US-0341767P
2001US-0341767P
2001US-03413946P
                                                                                                                                                                                                                                                           Conservative
                                                           (first entry
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                                                                                                                       protein; 119
                                                                                                                                                                                                                                                                          100.0%; Score 28; 100.0%; Pred. No.
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Houston S
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RESULT

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The invention relates to an isolated nucleic acid comprising any one of the He 213 antisense sequences given in the specification where expression of the mucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a proliferation of a cell. Also included are: (2) a vector comprising a promoter operably linked to the nucleic acid cencoding a polypeptide whose expression is inhibited by the antisense concludes acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense continues and the vector; (3) an isolated containing the polypeptide; (5) producing the polypeptide; (6) inhibited by the continues of the polypeptide; (6) inhibiting cellular proliferation, (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway of the gene product or that has an activity against a biological pathway or agene on which the test compound that inhibits proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or agene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound that inhibits proliferation of an organism antibiotic; (10) profiling an activity of the strains; or (11) identifying the target proliferation of an organism. The antisense nucleic acids are useful for continues of the proliferation of of organism or screening for homologous nucleic acids are useful for cellular proliferation in cells other than S. aureus, S. typhimurium, capatent did not format directly from WIPO at the sequence at a for this gratent did not format directly from WIPO at the sequence at this contained the princed specification, but was obtained contained in the property of the sequences.
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Best Local S
Matches 5
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Wall
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06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P.
08-FEB-2002; 2002US-00072851.
06-MAR-2002; 2002US-0362699P.
                                                                                                                                                 Sequence 119 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New antisense nucleic acids, useful for identifying proteins or screfor homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                   ftp.wipo.int/pub/published_pct_sequences
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nes 5; Conserv
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106 HYAMS
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                                   1 HYAMS 5
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Trawick JD,
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                                                                        Conservative
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Carr (
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                                                                      Score 28; DB Pred. No. 79; Mismatches
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                                                                                      DB
. 79;
                                                                                                            6; Length 119;
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Forsyth
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Xu HH;
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                                                                      Gaps
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CC encoding a polypeptide whose expression is inhibited by the antisense cc nucleic acid; (2) a host cell containing the vector; (3) an isolated converse of the polypeptide or its fragment whose expression is inhibited by the cc antisense nucleic acid; (4) an antibody capable of specifically binding ct polypeptide; (5) producing the polypeptide; (6) inhibiting cellular cc proliferation or the activity of a gene in an operon required for cr proliferation; (7) identifying a compound that influences the activity of continuity against a biological pathway considered for proliferation, or that inhibits cellular proliferation; (8) cc required for proliferation, or that inhibits proliferation of the biological pathway in which a proliferation-required gene or its gene product lies cor a gene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a cc organism acts; (9) manufacturing an antibiotic; (10) profiling a cc organism acts; (13) identifying the target of a compound that inhibits the gene product lies or strains; or (13) identifying the target of a compound that inhibits the cc proliferation of an organism. The antisense nucleic acids are useful for identifying proceans or screening for homologous nucleic acids required consistent of propersons or screening homologous nucleic acids required consistent of a caruginosa. The present sequence data for this patent did not form part of the printed specification, but was obtained consistent of the printed specification, but was obtained consistent consistency.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Staphylococcus haemolyticus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
(1) a vector comprising a promoter operably linked to the nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-MAR-2001; 2001US-00815242.

06-SEP-2001; 2001US-00948993.

25-OCT-2001; 2001US-0342923P.

08-FEB-2002; 2002US-00072851.

06-MAR-2002; 2002US-0362699P.
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Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 71569; 1766pp; English.
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Carr GJ,
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Forsyth |
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Xu HH;
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Sequence 119

AAR33256;

AAR33256 standard;

protein; 130

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RESULT 13
AAR33256
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Matches 5
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Best Local
                                                                                                                                                                                                                  The invention relates to novel genes and encoded proteins from Staphylococcus aureus. A composition comprising the S. aureus protein, a nucleic acid encoding the protein, or an antibody to the protein, is useful as a pharmaceutical, particularly as a vaccine for treating or preventing infection due to Staphylococcus bacteria, specifically an infection caused by S. aureus. The composition is particularly useful for treating or preventing sepsis in a patient. The composition can also be used for diagnostics. The protein is also used in an assay for enzymatic studies and as a target for antibiotics. This sequence represents one of the novel S. aureus proteins of the invention
                                                                                                                                                                                                                                                                                                                                                                             New Staphylococcus aureus protein, useful as a vaccine for treating preventing Staphylococcal infection, specifically an infection cause S. aureus, e.g. sepsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Staphylococcus aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Staphylococcus aureus protein #1039
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                                                                                                                                                                                             Sequence 119 AA;
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                                                                                                                                                                                                                                                                                                                                                        Claim 1; SEQ ID NO 2078; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-MAR-2001; 2001GB-00007661.
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DB; ACF73359.
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5; Conserv
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                                                                                                                                              100.0%; ilarity 100.0%; Conservative 0
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RESULT 14
AAR53341
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XX AAR53
XX 18-NO
DT 18-NO
CX MONOC
CX MONOC
CX MONOC
CX CONST
XX MONOC
CX CONST
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                         The sequences given in AAR33256-57 represent rat heavy and light chain variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression vectors. In these humanised antibodies none of the amino acids of the non human animal Ab variable region have been changed. (Updated on 25-MAR-
                                                                    Monoclonal antibody; Ab; ganglioside GM2; chimera; chimeric antibody; expression vector; heavy; light; chain; hypervariable region; CDR; constant region; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                                         Sequence 130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 6; Page 29-30; 63pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Humanised chimeric antibody prodn. against ganglioside GD3 cancers, such as melanoma, neuroblastoma, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1993-095510/12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-SEP-1991;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EP533199-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rattus rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Promoter; variable; region; rat; immunoglobulin; heavy; H; chain;
humanised; chimeric; antibody; expression vector.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-MAR-2003
12-JUL-1993
                                                Mus musculus.
                                                                                                                     KM641 L chain variable region.
                                                                                                                                              18-NOV-1994
                                                                                                                                                                                            AAR53341 standard;
                                                                                                                                                                                                                                                                                                                                                                                2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (KYOW)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide
           Peptide
                                                                                                                                                                                                                                                                                                         Local Similarity
nee 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunoglobulin H chain varible region of pKM641HA3
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                                                                                                                                                                                                                                                                                                          Conservative
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(first entry)
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                      Location/Qualifiers
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                                                                                                                                                                                            protein; 130 AA
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                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hasegawa M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Mature protein"
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                                                                                                                                                                                                                                                                                                         Score 28; DB
Pred. No. 87;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                   DB
87;
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Best Local S
Matches 5
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                    WPI; 1999-468416/39.
N-PSDB; AAX99482.
                                                                                                                                                                                                                                      pKM641 HA3 immunoglobulin heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AU9346181-A
                                                                                               07-SEP-1993;
                                                                                                                  07-JUN-1995;
                                                                                                                                                                                  Mus sp.
                                                                                                                                                                                                      antibody; nucleotide; genomic; hypervariable region; chimeric;
light chain; amino acid.
                                                                                                                                                                                                                                                             04-NOV-1999
                                                                                                                                                                                                                                                                                 AAY28369;
                                                                                                                                                                                                                                                                                                     AAY28369 standard; protein; 130
                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example 2; Page 116-117; 191pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Humanised antibody specific for ganglioside GM2 - used for producing a cytocidal effect on cancers such as melanoma, neuroblastoma and glioma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-SEP-1992;
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                                                                                                                                        17-AUG-1999
                                                                                                                                                             US5939532-A
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                                                                         (КУОМ ) КУОМА НАККО КОБУО КК.
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Similarity 100.0%;
5; Conservative 0
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                                                                                                                   95US-00483528.
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Pred. No. 87;
0; Mismatches
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                                                    Hasegawa
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Chimeric human antibody expression vectors

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Best Local S
Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to prior art constructs based on mouse monoclonal antibodies, the chimeric human antibodies do not cause anti-mouse immunoglobulin production. The chimeric human antibodies have a prolonged half-life and a reduced frequency of adverse effects when compared to mouse monoclonal
The present sequence is a murine immunoglobulin heavy chain variable region from plasmid KM-641. The coding sequence was used in the creatic of an expression vector, along with the sequence for a human antibody, produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 130 AA;
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                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                 ganglioside and
                                                                                                                                                                                                                                                      New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with
                                                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           (KYOW)
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DB; AAA51003.
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                                                                                                                                                                                Page
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                                                                                                                                                                                27-28; 65pp;
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92EP-00116026.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entry)
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                                                                                                                                                                                                                                 antibody
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                         Miyaji H,
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87;
                                                                                                                                                                                                                                    region.
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RESULT 17
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RESULT 18
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ganglioside; GD3; complementarity determining region; CDR; antibody;
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                                                                                                                                                                                                                                                                                                                                                           Sequence 138 AA;
                                                                                                                                                                                                                                                                                                                                                                                                            of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 1; Page 138-139; 183pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (КУОМ ) КУОМА НАККО КОСУО КК
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention describes drugs contain a genetically-modified antibody against gangliosaide GD3 or its fragment and at least I of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                    Novel human diagnostic protein #28970.
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                               31-MAR-2000; 2000US-00540217.
23-AUG-2000; 2000US-00649167.
                                                                                                             30-MAR-2001; 2001WO-US008631.
                                                                                                                                                                                                                           W0200175067-A2
                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
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Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genes. (I) is useful in gene therapy techniques to restore normal cativity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders of sites expressing (II). (I) and III) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations diagnostics, for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic amino acid sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from MIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 156 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hyperthermophilic archaeon; hyperthermophilic protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain
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                                                                 (CNRS ) CNRS CENT NAT RECH SCI.
                                                                                                                                                                   21-APR-1999;
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                                                                                                                                                                                                                                                                                            27-OCT-2000
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Pred. No.
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Forterre P,

Thierry JC,

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RESULT 21
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This invention relates to a novel method for targeting disruption of an arbitrary gene in a genome of an organism which comprises providing the whole sequential data of the genome of such organism, selecting at least 1 arbitrary region in the sequence, providing a vector that contains a sequence homologous with the selected region and a marker gene, transformation, and homologous recombination. The genome is preferably
                                                                                                                                                                                                                                                                                                                                                                                                                      gene disruption; gene targeting; marker gene; transformation; homologous recombination; hyperthermostable archaebacterium; KOD1; gene structure; gene function; enzyme activity; medicine; forensic science; food; drug inspection; molecular biology; immunology.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 7; Page 1634; 1657pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New nucleotide sequences
                                                                                                                                          Method for disrupting targeted gene in genome of organism particularly thermostable bacterium and with genome chips for analysis, applicable in
                                                                                                                                                                                                                                                                                                          29-AUG-2003; 2003WO-IB003597
                                                                                                                                                                                                                                                                                                                                                                   WO2004022736-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thermococcus kodakaraensis KOD1 protein sequence SeqID751
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                                                                                                                                                                                                                                                                                                                                      18-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                Thermococcus kodakaraensis.
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                                                    The invention relates to Pseudomonas aeruginosa polypeptides and the polynucleotides encoding them. The sequences are useful in diagnosis and therapy of pathological conditions, as molecular targets for diagnostics, prophylaxis and treatment of pathological conditions resulting from a bacterial infection, for evaluating a compound, such as a polypeptide, for the ability to bind a P. aeruginosa nucleic acid, as components of effective antibacterial targets, as targets for antibacterial drugs, including anti-P. aeruginosa drugs, as templates for recombinant production of P. aeruginosa-derived peptides or polypeptides, as target components for diagnosis and/or treatment of P. aeruginosa-caused
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel isolated nucleic acid encoding Pseudomonas aeruginosa polypeptide, useful as molecular targets for diagnostics, prophylaxis and treatment of pathological conditions resulting from bacterial infection.
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         infection, and of Pseudomonas
                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; SEQ ID NO 20338; 455pp; English.
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27-JUL-1998;
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                                  aeruginosa sequences or other
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RESULT 24
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                                                                                                                                                                                                                                                             New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABO84396 represent P. aeruginosa polypeptides of the invention. Note: sequence data for this patent did not form part of the printed specification but was obtained in electronic format from USPTO at segdata.uspto.gov/sequence.html
  AAB81991 standard;
                                                                                                                                                               The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                               Hanai N,
                                                                                                                                                                                                                                                                                                                                                                          30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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                                                                                                                                         Sequence 582
                                                                                                                                                                                                                              Claim 41; Page 168-172; 183pp; Japanese.
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3.9e+02;
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                                                                                                                                                                                                         Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ganglioside;
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  05-FEB-2001; 2001WO-US004098
                                                     09-AUG-2001
                                                                                                        WO200157190-A2
                                                                                                                                                                                                                                                                                                                                  Human protein SEQ
                                                                                                                                                                                                                                                                                                                                                                                        06-NOV-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               activity in cancer.
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06-APR-2000; 2000JP-00105088
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5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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                                                                                                                                                                                                                                                                                                                                                                                          (first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein; 1268
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Pred. No.
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Matches 5; Conserv
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27-APR-2000;
20-JUN-2000;
19-JUL-2000;
01-SEP-2000;
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Ma Y, Z
Xue AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to polynucleotides (AAK51456-AAK53435) and the encoded polypeptides (AAM78323-AAM80302) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or restment of cancer lenvisories.
                                                                                                                                               Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
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 03-FEB-2000; 2000US-00496914
                                                                                                                                                                                                                        Human protein SEQ ID NO 3741.
                                                                                                                                                                                                                                                     06-NOV-2001
                                                                                                                                                                                                                                                                                                               AAM80095 standard; protein; 1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1268 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111 (AAK52582) and 3666 (AAM80020) are omitted as the relevant pages from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim
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                             05-FEB-2001; 2001WO-US004098.
                                                          09-AUG-2001.
                                                                                      WO200157190-A2
                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                    AAM80095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence listing were missing at the time of publication
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Y, Zhao QA, W
AJ, Yang Y,
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                                                                                                                                                                                                                                                                                                                                                                                                                     1 HYAMS 5
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2000US-00663561.
2000US-00693325.
2000US-00728422.
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2000US-00560875.
2000US-00598075.
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100.0%; P;
ative 0;
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Pred. No.
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J, Zhang J,
Goodrich R;
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J, Ren F,
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RESULT 27
ABB63980
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20-UUN-2000; 2000US-0059075.
19-UUL-2000; 2000US-00620325.
01-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-00663561.
20-OCT-2000; 2000US-00669325.
30-NOV-2000; 2000US-00728422.
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Ma Y, Zh
Xue AJ,
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N-PSDB; AAK53228.
                                                                                 23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                                                                                                23-MAR-2001; 2001WO-US009231.
                                                                                                                                                                                                                                                                             WO200171042-A2
                                                                                                                                                                                                                                                                                                                                Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                  Drosophila; developmental biology; cell signalling; insecticide; pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster polypeptide SEQ ID NO 18732.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-MAR-2002
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, Zhao QA, Wang D, V
AJ, Yang Y, Wejhrman
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ilarity 100.0%;
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Wang D, Wang
Wejhrman T,
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Pred. No. 1.1
D; Mismatches
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g J, Zhang J,
Goodrich R;
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J, Ren F,
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Wang
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                                                                                                                                                                                                                                                                                                                                                              Immunosuppressive; immunostimulatory; antiinflammatory; cytostatic; neuroprotective; antimicrobial; gene therap; vaccine; amylase; cancer; amyloid protein; angiopoietin; apoptosis related protein; cadherin; cyclin; polymerase; oncogene; histone; kinase; colony stimulating factor; complement related protein; cytochrome; kinesin; cytokine; interferon;
             Polymorphic nucleic acids encoding e.g. amylases, oncogenes and histones, useful for diagnosing and autoimmune diseases and infections.
                                                                                                                                                                          28-DEC-1999;
                                                                                                                                                                                                                                                               WO200147944-A2
                                                                                                                                                                                                                                                                                                                                      multifactorial
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human peptide #507 encoded by a SNP oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAM97232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                            27-DEC-2000;
                                                                                                                                                                                                       28-DEC-2000; 2000WO-US035498
                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                      nervous system disease.
                                                                                                                                                                                                                                                                                                                                                  interleukin; G-protein coupled receptor; thioesterase; inflammation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Venter JC,
                                                                                                                                 (CURA-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 100 les 5; Conservative
                                                                        2001-465210/50
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                                                                                                                                CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HYAMS 5
                                                                                                   ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYAMS 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                            2000US-00173419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ą.
                                                                                                   Leach
                                                                                                                                                                          99US-0173419P
                                                                                                                                                                                                                                                                                                                                    disease; autoimmune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ID NO 18732; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           peptide; 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.4e+03;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1669;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                         cyclins, polymerases, treating, e.g. cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  invention alling and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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CC proteins, angiopoietin, apoptosis related proteins, cadherin, cyclin, cc complement related proteins, cycothones, kinases, colony stimulating factors, cc complement related proteins, cytochromes, kinases, colony stimulating factors, cc complement related proteins, cytochromes, kinaseins, cytokinas, cromplement related proteins, cytochromes, kinaseins, cytokinas, cc interferons, interleukins, G-protein coupled receptors and thioesterases. cc The present sequence is a peptide encoded by one such oligonucleotide. cc inappropriate and treatment of diseases associated with c prevention, diagnosed and/or treated include multifactorial diseases cinappropriate expression of the proteins listed above. Disorders that may be prevented, diagnosed and/or treated include multifactorial diseases cwith a genetic component, such as autoimmune diseases (e.g. rheumatoid cc arthritis, multiple sclerosis, diabetes, systemic lupus erythromatosus conditions, inflammation, cancer (e.g. cancers of the bladder, cancers of the bladder, component such as autoimmune diseases of the nervous constant, breast, colon and kidney, leukaemia), diseases of the nervous constant and an infection of pathogenic organisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 3779; 4143pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  encoding polymorphic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention relates to oligonuclectides (see AAL2679; encoding polymorphic variants of proteins related to amylases,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (see AAL26793-AAL34659)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amyloid
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ARESULT 29
ARAB34620
ID ARAB34620
AC ARAB34
AC
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; secreted protein; diagnosis; immunosuppressive; antiarthritic; antirheumatic; antiproliferative; cytostatic; cardiant; vasotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-JAN-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein sequence encoded by gene 44 SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein;
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Claim 11;

Page 387; 419pp;

English

N-PSDB; AAC59781.

2000-579482/54.

Rosen CA,

Ruben SM,

Komatsoulis

(HUMA-) HUMAN GENOME SCI INC

19-MAR-1999; 11-JUN-1999;

99US-0125360P. 99US-0138626P. 99US-0168662P.

09-MAR-2000; 2000WO-US006013.

WO200056751-A1 Homo sapiens.

The polynucleotide sequences given in AAC59738 to AAC59787 encode the

Isolated nucleic acid molecule encoding a human secreted protein in preventing, treating or ameliorating a medical condition.

is used

밁 8

Query Match

4.

Length 14;

0

Sequence 14

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CC antiarthritic; immunosuppressive; anti-heumatic; antiproliferative;
CC cytostatic; cardiant; vasotropic; cerebroprotective; nootropic;
CC ophthalmological The polynucleotides and proteins can be are used to
CC prevent, treat or ameliorate a medical condition in e.g. humans, mice,
CC diagnosing a pathological condition or susceptibility to a
CC pathological condition. Disorders which are diagnosed or treated include
CC cancers of the breast or liver, cardiovascular disorders e.g. neoplasms and
CC cancers of the breast or liver, cardiovascular disorders. Cerebrovascular
CC disorders, angiogenesis, nervous system disorders. The proteins caused by
CC be used to aid wound healing and epithelial cell proliferation, to
CC be used to aid wound healing and epithelial cell proliferation, to
CC prevent skin aging due to sunburn, to maintain organs before
CC transplantation, for supporting cell culture of primary tissues, to
CC prevent skin aging due to sunburn, to maintain organs before
CC transplantation for supporting cell culture of primary tissues, to
CC capabilities. AAC59729 to AAC59737 and AAB34576 represent sequences used
CC capabilities. AAC59729 to AAC59737 and AAB34576 represent sequences used
CC in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
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       Claim 20;
                                                                          Isolated nucleic acids and polypeptides, and treating e.g. leukemia, inflammation
                                                                                                                                                                                              N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-FEB-2000; 2000US-00515126.
18-MAY-2000; 2000US-00577409.
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                                                                                                                                                                                                                                                                                                    Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-FEB-2001; 2001WO-US004927
                                                                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC.
                                                                                                                                                                                           2001-514838/56.
DB; AAI83116.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polypeptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36 HYAMT
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       SEQ ID
                                                                                                                                                                                                                                                                                                    Liu C,
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17077; 1399pp + Sequence Listing; English
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Pred. No. 1.6e+02;
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                                                                          useful for preventing and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.
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RESULT 31
AAOO3855
ID AAOO3
XX AAOO3
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YX PD 07-S
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Best Local
The invention relates to human polymucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          production of other cytokines in other cell populations. The polynuclectides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; cytokine; cell proliferation; cell differentiation; gene th vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human polypeptide SEQ ID NO 17747.
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                                                                                                                                                                                                Claim 20;
                                                                                                                                                                                                                                Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukemia, inflammation and immune disorders.
                                                                                                                                                                                                                                                                                             N-PSDB; AAI83786.
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18-MAY-2000; 2000US-00577409.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nervous system disorders; arthritis;
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                                                                                                                                                                                                                                                                                                                                                                                              (HYSE-) HYSEQ INC.
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                                                                                                                                                                                                                                                                                                                                                        YT,
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                                                                                                                                                                                              SEQ ID NO 17747; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                      Liu C,
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Pred. No. 2.5e
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 4;
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RESULT 32
ADB07666
CC Alloicoccus otitidis genomic DNA, which encodes an antigenic protectin.
CC Alloicoccus otitidis is a Gram-positive bacterium. Also described: (1)
CC an isolated polypeptide that is encoded by the polymucleotide (1); (2) an isolated polypeptide that is encoded by the polymucleotide (1); (2) an isolated polypeptide that is encoded by the polymucleotide (1); its complement, degenerate variant or fragment; (3) a genetically engineered (2); (4) an antibody specific for the polypeptide of (1); (5) an immunogenic (2); (6) an interest of the polypeptide, its complement, biological (2); (2); (3) an impunogenic (4); and a carrier; (7) a protein chart is comprised in the (2); (3) and a carrier; (7) a protein chip comprising the polypeptide of (1), their biological equivalent or fragment; (8) (5) immunising against Alloicoccus otitidis by administering to a host the containing the novel polymucleotide, its degenerate variant or fragment; (8) (5) detecting and/or identifying Alloicoccus or the antibody of (4); and (11) producing a polypeptide by culturing the genetically engineered host cell under conditions suitable to produce the polypeptide from the culture. (1) can be used in gene therapy. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New Alloiococcus otitidis polynucleotides and polypeptides, useful for treating and diagnosing diseases, drug screening assays and monitoring effects during drug clinical trials.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 33; SEQ ID NO 1606; 1019pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fletcher LD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-NOV-2001; 2001US-0333777P
18-NOV-2002; 2002US-0426742P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alloiococcus otitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alloiococcus otitidis; antigenic protein; immunogenic; immunisation; gene therapy; Gram-positive bacterium; infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADB07666;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention describes an isolated polynucleotide (I) of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-NOV-2002; 2002WO-US036123
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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Pred. No. 3.6e+02;
1; Mismatches (
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RESULT 33
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                    (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis. (I) can have antibacterial activity and therefore can be used in vaccination. The nucleic acids(I) may be used to produce the S. C. epidermidis polypeptides (II) via the production of vectors containing them which are used to produce hosts cells which express the polypeptides. The polypeptides (II) (and/or nucleic acids) may then be used to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to assay for other inhibitors of their activity and therefore identify compounds that may be used for the activity and therefore identify compounds that may be used for the cartivity and therefore identify compounds that may be used for the polypurcleotide sequences from the present invention. AAH53971 to AAH55090 represent specifically claimed S. epidermidis genomic DNA polynucleotide sequences and primers which are used in the exemplification of the present invention. N.B. The present invention sequence listing only goes up to SEQ ID NO:4454 so even though sequences are given in the disclosure for SEQ ID NO:4465 to 4472, no sequences are present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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Matches 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic acids encoding polypeptides from Staphylococcus epidermidis, useful for vaccinating against infections, e.g. endocarditis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAH52304 to AAH53970 represent nucleic acids (I) encoding polypeptides (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 18; Page 271; 2188pp; English
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   to 4464
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Pred. No.
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                                     (1) a vector comprising a promoter operably linked to the nucleic acid concording a polypeptide whose expression is inhibited by the antisense concleic acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the contisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for confidentifying a compound that influences the activity of the gene product or that has an activity against a biological pathway contained for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or agene on which the test compound that inhibits proliferation of an CC compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent of the activity against a culture or collection of
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
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06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P.
08-FEB-2002; 2002US-00072851.
06-MAR-2002; 2002US-0362699P.
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to which each of strains; or (13)
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Trawick JD,
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                            the strains
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Carr GJ,
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is present in a culture or col
the target of a compound that
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Forsyth
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Xu HH;
lection of inhibits the
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The present invention describes an isolated polynucleotide (I) of Alloiococcus ottiidis genomic DNA, which encodes an antigenic protein. Alloiococcus ottiidis is a Gram-positive bacterium. Also described: (1) an isolated polypeptide that is encoded by the polynucleotide (I); (2) an expression vector comprising the novel isolated polynucleotide (I); its complement, degenerate variant or fragment; (3) a genetically engineered host cell, transfected, transformed or infected with the vector of (2); (4) an antibody specific for the polypeptide of (1); (5) an immunogenic composition comprising the polypeptide, its complement, biological equivalent or fragment, or the polypeptide that is comprised in the expression vector; (6) a pharmaceutical composition comprising the polypeptide of (1) and a carrier; (7) a protein chip comprising an array of the polypeptides of (1), their biological equivalent or fragment; (8) immunising against Alloiococcus otitidis by administering to a host the
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                                                                                                                                                                                                                                                                                                        New Alloiococcus otitidis polynucleotides and polypeptides, treating and diagnosing diseases, drug screening assays and effects during drug clinical trials.
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18-NOV-2002; 2002US-0426742P.
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DB; ADB07673.
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4.3e+02;
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The present invention describes an isolated polynucleotide (I) of Alloiococcus ortitidis genomic DNA, which encodes an antigenic protein. Alloiococcus ortitidis is a Gram-positive bacterium. Also described: (I) an isolated polypeptide that is encoded by the polynucleotide (I); (2) an expression vector comprising the novel isolated polynucleotide (I), its complement, degenerate variant or fragment; (3) a genetically engineered host cell, transfected, transformed or infected with the vector of (2); (4) an antibody specific for the polypeptide of (1); (5) an immunogenic composition comprising the polypeptide, its complement, biological equivalent or fragment, or the polymucleotide that is comprised in the expression vector; (6) a pharmaceutical composition comprising the polypeptide of (1) and a carrier; (7) a protein chip comprising an array
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New Alloiococcus otitidis polynucleotides and polypeptides, useful for treating and diagnosing diseases, drug screening assays and monitoring effects during drug clinical trials.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 33; SEQ ID NO 1608; 1019pp; English.
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18-NOV-2002;
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DB; ADB07667.
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4; Conserv
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2002US-0426742P.
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Pred. No. 4.6e+02;
1; Mismatches 0
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RESULT 37
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of the polypeptides of (1), their biological equivalent or fragment; (8) immunising against Alloiococcus officidis by administering to a host the immunogenic composition; (9) detecting and/or identifying Alloiococcus officidis in the biological sample; (10) a kit comprising Alloiococcus containing the novel polynucleotide, its degenerate variant or fragment, or the antibody of (4); and (11) producing a polypeptide by culturing the genetically engineered host cell under conditions suitable to produce the polypucleotides, polypeptides, antibodies and compositions of the present invention can be used for treating and diagnosing diseases, drug screening assays and monitoring of effects during drug clinical trials. The present sequence represents an Alloiococcus of titidis antigen protein from the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vaccine; peptide therapy; stem cell growth factor; haematc tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
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                                                                                                                                                                                                                                                  N-PSDB;
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18-MAY-2000; 2000US-00577409.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAO02622 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; cytokine; cell proliferation; cell differentiation; gene therapy;
                                                                                                                                                                                              Isolated nucleic acids and polypeptides, useful for and treating e.g. leukemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         haematopoiesis;
                                                                                                                                                                                                   preventing disorders.
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                                                                                                                                                                                                                     diagnosing
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The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or

Claim 20;

SEQ ID NO 16514; 1399pp + Sequence Listing; English

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RESULT 38
AAU17373
ID AAU1
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Matches 4
  31-JAN-2000

04-FEB-2000

24-FEB-2000

16-MAR-2000

17-MAR-2000

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19-MAY-2000

07-JUN-2000

07-JUN-2000

07-JUL-2000

07-JUL-2000

11-JUL-2000

11-JU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Neuroprotective; cytostatic; dermatological; immunosuppressive; tumous antiinflammatory; anti-HIV; antibacterial; antiinflammatory; cancer; immune system disorder; rheumatoid arthritis; inflammatory condition; organ transplant rejection; infection; hepatitis (7; blood disorder; sickle cell anaemia; hyperproliferative disorder; Gaucher's disease; neurodegenerative disorder; Alzheimer's disease; Parkinson's disease; chromosomal abnormality; Down syndrome; ischaemia; renal disorder; cardiovascular; respiratory; wound healing; endocrine; Addison's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         treatment of cancer, leukaemia, nervous system disorders, arthritis inflammation. Note: The sequence data for this patent did not form p of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     chromosomal abnormality; Down syndrome; ischaemia; renacardiovascular; respiratory; wound healing; endocrine; reproductive system; gastrointestinal; liver disorder; acquired immune deficiency syndrome.
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nilarity 80.0%;
Conservative
2000US-0179065P.
2000US-0184664P.
2000US-0184664P.
2000US-019874P.
2000US-0199076P.
2000US-0199076P.
2000US-029467P.
2000US-021643P.
2000US-021643P.
2000US-021643P.
2000US-021649P.
2000US-021649P.
2000US-0216880P.
2000US-0217496P.
2000US-0217496P.
2000US-0218290P.
2000US-0218290P.
2000US-022514P.
2000US-0225214P.
2000US-0225266P.
2000US-0225266P.
2000US-0225247P.
2000US-0225247P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
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; Pred. No. 5e+0
1; Mismatches
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5e+02;
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The invention relates to novel isolated polypeptides (I), and CC polynucleotides (II). (I), (II) and the antibody to (I) are useful for CC dispracing, preventing and treating diseases including immune system CC disorders (e.g. congenital and acquired immunodeficiencies, autoimmune CC disorders (e.g. rheumatoid arthritis), inflammatory conditions, organ CC (e.g. hepatitis C), bleeding disorders, haemoglobin abnormalities and CC (e.g. hepatitis C), bleeding disorders, haemoglobin abnormalities and CC (e.g. Gauchar's disease and cancer), meurodegenerative disorders (e.g. Gauchar's disease and cancer), neurodegenerative disorders (e.g. Gauchar's disease) and cancer), neurodegenerative disorders (e.g. Gauchar's disease), renamental providers (e.g. CC Alzheimer's disease), renamental disorders (e.g. CC Quentionesonal abnormalities (e.g. CC Quentionesonal abnormalities), cardiovascular disorders (e.g. arrhythmia), cardiovascular disorders (e.g. arrhythmia), corresponding to the strong companion of the stimulators of CC disfammatory disorders, dermatological disorders (e.g. Addison's Gisease), reproductive system disorders, gastrointestinal disorder (c.g. infammatory disorders), liver disorders (e.g. arrhythmia), to induce to the stimulators of the pathologies e.g. acquired immune deficiency syndrome (AIDS). ABU17059-ABU17631 represent novel signal transduction pathway protein, amino acid sequences of the invention
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01.DEC-2000
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08.DEC-2000
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08.DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel polypeptides useful for diagnosing, treating, preventing and/or prognosing disorders related to the proteins, including cancers, immune disorders and neuronal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-465460/50.
N-PSDB; AAS27290.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; SEQ ID NO 938; 880pp; English.
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2000US-0249264P

2000US-0249265P

2000US-0249299P

2000US-0249300P

2000US-0250160P

2000US-0251030P

2000US-0251980P

2000US-0251980P

2000US-0251868P

2000US-0251869P

2000US-0251869P

2000US-0251989P

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2000US-0249212P.
2000US-0249213P.
2000US-0249214P.
2000US-0249215P.
2000US-0249216P.
2000US-0249216P.
2000US-0249218P.
2000US-0249218P.
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2000US-0246611P
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RESULT J.

ADBUTT J.

ADBUTT J.

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Matches 3:4
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26-JUL-2000
14-AUG-2000
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09-SEP-2000
21-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human; autoimmune disease; Parkinson's disease; silicosis; gastrointestinal disease; atheroscierosis; haemophilla; thrombocytopenia; immunosuppressive agent; adjuvant; enhance immune response; higher affinity antibody induction; increased serum immunoglobulin concentration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human novel
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                                                  2000US-0220964P.
2000US-0224519P.
2000US-0225268P.
2000US-0225757P.
2000US-0225757P.
2000US-0225758P.
2000US-0225758P.
2000US-0225788P.
2000US-0225788P.
2000US-022934P.
2000US-022934P.
2000US-022934P.
2000US-022934P.
2000US-022934P.
2000US-023934P.
2000US-0234274P.
2000US-0234274P.
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2000US-0234274P.
2000US-0234834P.
2000US-0234834P.
2000US-0236367P.
2000US-0236367P.
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2000US-0236367P.
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2000US-0218290P.
2000US-0220963P.
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2000US-0217487P.
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ABG21786
ID ABG2
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AC ABG2
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DT 18-1
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                                                                                                                 RESULT 40
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Best Local S
Matches 4
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13-OCT-2000;
20-OCT-2000;
20-OCT-2000;
20-OCT-2000;
11-NOV-2000;
17-NOV-2000;
   18-FEB-2002
                                         ABG21786;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New isolated polypeptide useful for diagnosing and treating immunosuppressive conditions such as autoimmune disease and Parkinson's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-DEC-2000;
                                                                          ABG21786 standard; protein; 164 AA.
                                                                                                                                                                                                                                                                                                                      Sequence 150 AA;
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RUBEN
                                                                                                                                                                                                                                              Similarity 4; Conserv
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                                                                                                                                                                        HYALS 69
                                                                                                                                                                                                                                                                                                                                                          seqdata.uspto.gov/sequence.html?DocID=20020168711.
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2000US-0241809P.
2000US-0244617P.
2000US-0249299P.
2000US-0251866P.
2000US-0251869P.
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2000US-0239935P.
2000US-0240960P.
   (first entry)
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                                                                                                                                                                                                                                          Score 25; DB 7;
Pred. No. 5.2e+02;
1; Mismatches 0
                                                                                                                                                                                                                                                0; Indels
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                                                                                                        Matches
                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                               and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic amino acid sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated polynucleotide and encoded polypeptides, useful diagnostics, forensics, gene mapping, identification of mutat responsible for genetic disorders or other traits and to asse
                                                                                                                                                                                                                Sequence 164 AA;
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23-AUG-2000; 2000US-00649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-MAR-2001; 2001WO-US008631.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20; SEQ ID NO 52145; 103pp; English.
18 HYALS
                                                  1 HYAMS 5
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                                                                                                     Conservative
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                                                                                                                                 89.3%;
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                                                                                                        Score 25; DB
Pred. No. 5.7e
1; Mismatches
                                                                                                                                 DB 4; 1
5.7e+02;
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                                                                                                                                                          Length 164;
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Search completed: December 17, 2004, 18:28:58 Job time : 17.1966 secs

Copyright

GenCore version (c) 1993 - 2004

5.1.6 Compugen Ltd

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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  Pred. No. is the score greater the and is derived?
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109.302 Million cell updates/sec
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             IBSUED PATENTS AA:*

1: /cgn2 6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2 6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2 6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2 6/ptodata/1/iaa/6B_COMB.pep:*

5: /cgn2 6/ptodata/1/iaa/pcTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfIles1.pep:*
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US-09-770-834-6
US-09-255-322B-8
US-09-255-322B-18
US-09-764-304-8
US-09-764-304-18
US-09-770-767-4278
US-09-270-767-4278
US-09-270-767-4274
US-09-270-767-4274
US-09-270-767-4274
US-09-270-767-4278
US-09-2710-279-2038
US-09-710-279-1072
US-09-710-279-1072
US-09-710-279-270-6
US-09-710-279-270-767-4839
US-09-711-164-488
US-09-711-164-488
US-09-711-164-8488
US-09-711-164-8189
US-09-500-563-681A-5431
US-09-710-23B-16
US-09-710-23B-16
US-09-710-23B-16
US-09-710-23B-16
US-09-500-563-681A-8179
US-09-248-796A-19817
US-09-328-352-4712
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                                Sequence 44839, A
Sequence 448, App
Sequence 5431, App
Sequence 16, Appl
Sequence 10078, A
Sequence 10078, A
Sequence 48, Appl
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1072, Ap
2706, Ap
3852, Ap
14325, Ap
14325, A
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18, Appl
34278, A
49495, A
42774, A
42774, A
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20338, A
20338, A
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           48, Appl
8179, Ap
19817, A
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US-09-394-455-45	US-09-394-455-43	US-08-973-518-4	US-08-943-136-4	US-08-858-207A-504	US-09-248-796A-26555	US-09-270-767-62479	US-09-489-039A-13625	50-	US-09-095-881-14	US-09-522-474-7	US-09-147-236-7	US-09-252-991A-24741	US-08-335-865J-20	US-08-335-865J-21	US-08-335-865J-9	US-09-670-141-2	US-09-198-956-2	
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	
45, Appl	43, Appl	4, Appli	4, Appli	504, App	26555, A	62479, A	13625, A	6089, Ap	14, Appl	7, Appli	7, Appli	24741, A	20, Appl	21, Appl		2, Appli	2, Appli	

ALIGNMENTS

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PRIOR APPLICATION NUMBER: US 60/202,466
PRIOR FILLING DATE: 2000-05-08
NUMBER OF SEQ ID NOS: 16
SOTTWARE: PatentIn version 3.0
SEQ ID NO 6
LENGTH: 119
TYPE: PRT
ORGANISM: Staphylococcus sp.
US-09-770-834-6
Sequence 8, Application US/09225322B

Patent No. 6437098

GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBBU
APPLICANT: HASEGAWA, MAMORU
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHI
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/225,322B
CURRENT FILING DATE: 1999-01-05
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US-09-770-834-6
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Best Local Similarity
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TITLE OF INVENTION: CRYSTAL STRUCTURE OF ACPS/ACP COMPLEX, SOLUTION STRUCTURE
TITLE OF INVENTION: OF B. SUBTILIS ACP, AND USES THEREOF
FILE REFERENCE: 2368/14
CURRENT APPLICATION NUMBER: US/09/770,834
CURRENT FILING DATE: 2001-10-12
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APPLICANT: Somers, William
APPLICANT: Tam, Amy
APPLICANT: Lin, Laura
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Stahl, Mark
Powers, Robert
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Pred. No. 17;
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US-09-225-322B-18
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PRIOR FILING DATE: 1995-05-31
PRIOR PELICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR PELICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR PELING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR PELICATION NUMBER: US07/947,674
                                                                                                                                                                                                                                                                                                            SEQ ID NO 18
LENGTH: 130
TYPE: PRT
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PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
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CURRENT APPLICATION NUMBER: US/09/225,322B
CURRENT FILING DATE: 1999-01-05
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APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAM
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PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
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APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence FEATURE:
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ORGANISM: Artificial Sequence
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HASEGAWA, MAMORU
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Pred. No. 19;
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Pred. No.
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19;
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Query Match
Best Local Similarity
Matches 5; Conserv
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OTHER INFORMATION: cDNA KM-641
US-09-764-304-8
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EARLIER APPLICATION NUMBER: 09/225,322
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 199-01-05
EARLIER FILING DATE: 199-05-03-03
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER FILING DATE: 1992-09-17
EARLIER FILING DATE: 1992-09-17
EARLIER FILING DATE: 1992-09-18
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LENGTH: 130
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Patent No.
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EARLIER FILING DATE: 1992-09-17
EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
                                                                                               EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US07/947,674
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APPLICANT: HANAI, NOBUC
APPLICANT: HASSGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUYAMA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
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APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
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APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
                                                                                                                                                                                                                                 EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER FILING DATE: 1995-05-31
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CURRENT FILING DATE: 2001-01-19
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SOFTWARE: PatentIn Ver. :
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o. 6495666
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Pred. No.
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US-09-270-767-34278
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                                                                                                                        ; OTHER INFORMATION: Xaa means any amino US-09-270-767-49495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-270-767-34278
                                                                                                                                                                                                APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 49495
LENGTH: 211
                                                                                                                                                                                                                                                                                                                                              Patent No. 6703491
GENERAL INFORMATION:
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Best Local
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Drosophila melanogaster FEATURE:
                                                                                                                                                                    TYPE: PRT ORGANISM: Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: Xaa means any amino acid
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154 HYAMS 158
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Pred. No.
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32;
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RESULT 10
US-09-252-991A-20338
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CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 42774
LENGTH: 351
                                                                                              Sequence 20338, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 4
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Patent No. 6727408
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Best Local
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Best Local
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APPLICANT: SHI, HUAZHONG
APPLICANT: SHI, HUAZHONG
APPLICANT: ISHITANI, MANABU
APPLICANT: STEVENSON, BECKY
TITLE OF INVENTION: PROTEINS AND DNA RELATED TO SALT TOLERANCE IN PLANTS
FILE REFERENCE: 205644US20
CURRENT APPLICATION NUMBER: US/09/824,734
CURRENT FILING DATE: 2001-04-04
              APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: ASRUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/194,648
PRIOR FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 42
TYPE: PRT
CURRENT FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn version 3.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Xaa means any amino acid
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nes 5; Conserv
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1999-02-18
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US-08-335-865J-4
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                                                                                                      US-08-335-865J-4
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PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 20338
LENGTH: 514
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                                                    Matches
                                                                              Query Match
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Best Local Similarity
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                                                                                                                                                                                     TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Pseudomonas aeruginosa
                                                                                                                   TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                           FILING DATE: 11-May-1992
ATTORNEY/AGENT INFORMATION:
NAME: HANSON, NO. 6107472man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD-5277
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 19-Janua CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: PCT/
FILING DATE: 10-May-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PL23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: New York STATE: New Yor
                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER:
                                                                                                                                                                                                                 TELEPHONE:
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HYALS 22
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1998-02-18
                                                               89.3%;
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                                                               Score 25; DB 3;
Pred. No. 16;
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; FEATURE:
; NAME/KEY: UNSURE
; LOCATION: (6),(51)
; OTHER INFORMATION: I
US-09-248-796A-16865
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US-09-710-279-908
RESULT 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Keith Weinstock et al
APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
FILE REFERENCE: PU3480US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 908
                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 16865
LENGTH: 306
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Patent No. 6703492
                                                                                                                            Matches
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Best Local 9
                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/248,796A CURRENT FILING DATE: 1999-02-12
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CURRENT FILING DATE: 2000-11-09
PRIOR APPLICATION NUMBER: 60/164,258
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                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Candida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 116
                                                                                                                                             Local
                                                    83 HYALS 87
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                                                                                                                                               89.3%;
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Pred. No.
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Pred. No. 2.5e+02;
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US-09-710-279-1072

Sequence 1072, Application US/09710279 Patent No. 6703492

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Sequence 3852, Application US/09134001C

Patent No. 6380370

GENERAL INFORMATION:
APPLICANT: Lynn Doucette-Stamm et al

ITITLE OF INVENTION: NUCLEIC ACID AND AMINO ACI

TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOST:
FILE REFERENCE: GTC-007

CURRENT APPLICATION NUMBER: US/09/134,001C

CURRENT APPLICATION NUMBER: US 60/064,964

PRIOR APPLICATION NUMBER: US 60/064,964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2706, Application US/09710279

Patent No. 6703492

GENERAL INFORMATION:

APPLICANT: KIMMERLY, WILLIAM JOHN

TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROT

FILE REFERENCE: PUJ480US

CURRENT APPLICATION NUMBER: US/09/710,279

CURRENT FILING DATE: 2000-11-09

PRIOR APPLICATION NUMBER: 60/164,258

PRIOR APPLICATION NUMBER: 60/164,258

PRIOR APPLICATION STAPPLICATION NUMBER: 05/164,258

PRIOR APPLICATION NUMBER: 05/164,258

PRIOR PRIOR APPLICATION NUMBER: 05/164,258

PRIOR PRIOR STAPPLICATION NUMBER: 05/164,258

PRIOR PRIOR PRIOR DATE: 1999-11-99

NUMBER OF SEG ID NOS: 4472

SOFTWARE: Patentin Ver. 2.1
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US-09-710-279-2706
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SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1072
LENGTH: 308
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS FILE REFERENCE: PU3480US CURRENT APPLICATION NUMBER: US/09/710,279 CURRENT FILING DATE: 2000-11-09 PRIOR APPLICATION NUMBER: 60/164,258 PRIOR APPLICATION NUMBER: 60/164,258 PRIOR FILING DATE: 1999-11-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: KIMMERLY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: Description of Artificial Sequence: synthetic OTHER INFORMATION: amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENGTH: 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
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Pred. No. 2.5e
1; Mismatches
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Pred. No.
                                                                                                                    AMINO ACID SEQUENCES RELATING DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4;
2.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 4;
2.5e+02;
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; OTHER INFORMATION: US-09-270-767-44839
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US-09-270-767-44839
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; ORGANISM: Staphylococcus epidermidis
US-09-134-001C-3852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-248-796A-14325
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                                                                                                                                         APPLICANT: Homburger et al.

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEG ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEG ID NO 44839
LENGTH: 348
THE PATENT FILING DATE: 1999-03-17
                                                                                                                                                                                                                                                                                                 Sequence 44839, Application US/09270767
Patent No. 6703491
GENERAL INFORMATION:
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PRIOR FILING DATE: 1997-08-14
NUMBER OF SEQ ID NOS: 5674
SEQ ID NO 3852
LENGTH: 318
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LENGTH: 318
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                 Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Keith Weinstock et al TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 1998-08-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 28208
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 107196.132
                                                                                                 TYPE: PRT ORGANISM: Drosophila melanogaster FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
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4; Conservative
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   Conservative
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                                                                                 Xaa means any amino acid
                 89.3%;
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Score 25; DB 'Pred. No. 2.8e.
1; Mismatches
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Pred. No. 2.6e
1; Mismatches
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Pred. No.
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                                  DB 4;
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                                 Length 348
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   Gaps
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US-09-500-569-16
; Sequence 16, Application US/09500569
; Patent No. 6329204
; GENERAL INFORMATION:
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Best Local S
Matches 4
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GENERAL INFORMATION:
APPLICANT: GARY ERETON

TITLE OF INVENTION: UUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL

TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 2709.1002-001

CURRENT APPLICATION NUMBER: US/09/543,681A

CURRENT APPLICATION NUMBER: US 60/128,706

PRIOR APPLICATION NUMBER: US 60/128,706

PRIOR FILING DATE: 1999-04-09
                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 5431
LENGTH: 359
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CURRENT APPLICATION NUMBER: US/09/711,164
CURRENT FILLING DATE: 2000-11-09
PRIOR APPLICATION NUMBER: US 60/164415
PRIOR FILING DATE: 1999-11-9
NUMBER OF SEQ ID NOS: 469
APPLICANT: Cahoon, Rebecca E. APPLICANT: Rafalski, Antoni APPLICANT: Shen, Jennie
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APPLICANT: Ohisen, Kari
APPLICANT: Zyskind, Judith
TITLE OF INVENTION: GENES ESSENTIAL FOR MICROBIAL PROLIFERATION AND ANTISENSE THERET
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ORGANISM: Proteus mirabilis
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TYPE: PRT
ORGANISM: Escherichia coli
                                                                                                                                                                                                                                                                                  Local Similarity
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Pred. No. 2.8e+02;
1; Mismatches 0
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Pred. No. 2.9e+02;
1; Mismatches 0
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; TYPE: PRT ; ORGANISM: Klebsiella pneumoniae US-09-489-039A-10078
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US-09-489-039A-10078
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US-09-500-569-16
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                                                                                   APPLICANT: GATY Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR PRILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 10078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/971,823B
CURRENT FILING DATE: 2002-05-17
PRIOR APPLICATION NUMBER: 60/119,587
PRIOR FILING DATE: 1999-02-10
NUMBER OF SEQ ID NOS: 28
SOFTWARE: Microsoft Office 97
SEQ ID NO 16
                                                                                                                                                                                                                                                                Sequence 10078, Application US/09489039A Patent No. 6610836 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Cahoon, Rebecca E.
TITLE OF INVENTION: Plant Caf
FILE REFERENCE: BB1327 US NA
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Matches
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SOFTWARE: Microsoft Office 97
SEQ ID NO 16
LENGTH: 371
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Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                LENGTH: 410
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4; Conserv
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89.3%;
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Pred. No.
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Pred. No.
Score
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25;
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3e+02;
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3e+02;
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                                                                                                                                                            RESULT 25
US-09-543-681A-8179
                                                                                                                                                                                                                                                                                                                                                                             US-08-311-731A-48
GENERAL INFORMATION:
APPLICANT: GARY ERETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO
TITLE OF INVENTION: DIAGNOSTICS AND THERA
FILE REFERENCE: 2709.1002-001
CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
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                                                                                                                       Sequence 8179, Application US/09543681A Patent No. 6605709
                                                                                                                                                                                                                                                                                                       Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PISH PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/311,731A
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: GATES, EDWARD R.
REGISTRATION NUMBER: 31,616
REFERENCE/DOCKET NUMBER: C004
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/720-3500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 48:
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                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES
TITLE OF INVENTION: RELATING TO MYCOBACTERIUM TUBERCULOSIS
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: M
                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 439 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM:
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                                                                                                                                                                                                                                                                                                                     Score 25; DB 4;
Pred. No. 3.6e+02;
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1; Mismatches 0
                                                   AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABII AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                     Mismatches
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Query Match
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                                                                                                               ; ORGANISM: Acinetobacter baumannii US-09-328-352-4712
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Patent No. 6747137

PARENTAL INFORMATION:

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS

TITLE OF INVENTION: POR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

CURRENT FILING DATE: 1999-02-12

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR APPLICATION NUMBER: US 60/096,409

PRIOR FILING DATE: 1998-02-13

PRIOR FILING DATE: 1998-08-13
                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 4712
LENGTH: 473
TYPE: PRT
                                                                                                                                                                                                                                          Sequence 4712, Application US/09328352
Patent No. 6562958
GENERAL INFORMATION:
APPLICANT: Gary L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
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PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 8179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 19817
LENGTH: 440
                                                Matches
                                                                Query Match
Best Local :
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Best Local
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                                               Local Similarity hes 4; Conserv
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Pred. No.
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Pred. No.
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                                                                 3.9e+02;
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                                                                                  DB 4;
                                                                                 Length 473;
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                  Query Match
Best Local Similarity
Thes 4; Conserve
                                                                                                                 ; LENGTH; 494
; TYPE: PRT
; ORGANISM: Bacillus licheniformis
US-09-670-141-2
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US-09-670-141-2
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                                                                                                                                                                                               SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
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Patent No. 616576
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                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: 1344/97
PRIOR FILING DATE: 1997-11-24
PRIOR APPLICATION NUMBER: 60/067,240
PRIOR FILING DATE: 1997-12-02
NUMBER OF SEQ ID NOS: 26
NUMBER OF SEQ ID NOS: 26
                                                                                                                                                                                                                                                                                                                                               APPLICANT: Lange, Niels Erik K.
APPLICANT: Bjornvad, Mads E.
APPLICANT: Schnorr, Kirk
TITLE OF INVENTION: Pectin Degrading Enzymes From Bacillus
TITLE OF INVENTION: Licheniformis
TITLE OF INVENTION: Licheniformis
TITLE PETERENCE: 5377.200-US
CURRENT APPLICATION NUMBER: US/09/670,141
CURRENT FILING DATE: 2000-09-26
PRIOR APPLICATION NUMBER: 09/198,956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Andersen, Lene N. APPLICANT: Schulein, Martin APPLICANT: Lange, Niels Eri APPLICANT: Bjornvad, Mads E APPLICANT: Schnorr, Kirk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER APPLICATION NUMBER: 60/067,240 EARLIER FILING DATE: 1997-12-02
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Schulein,
APPLICANT: Lange, Ni
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SOFTWARE: FastSEQ for Windows Version 3.0
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                                        Conservative
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                                                    89.3%;
                                    Score 25; DB 4; Length 494; Pred. No. 4.1e+02; Indels
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Pred. No. 4.1e+02;
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US-08-335-865J-9
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                                                                                                                                                                                                        US-08-335-865J-21
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Best Local Similarity 80.0
Warches 4; Conservative
                                                                                                                                                   Patent No. 6107472
GENERAL INFORMATION:
                                                                                                                                                                       Sequence 21, Application US/08335865J Patent No. 6107472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 9, Application US/08335865J Patent No. 6107472
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APPLICANT: Stacker, Steven A.; Hovens, Christopher M.,
APPLICANT: Wilks, Andrew F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU93
FILING DATE: 10 May-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PL2358
APPLICATION NUMBER: PL2358
                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
TOPOLOGY: linear
ORIGINAL SOURCE: ma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 566
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: ASCII/Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/33:
FILING DATE: 19-January-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: RECEPTOR-TYPE TYROSINE KINASE-LIKE MOLECULES NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
                                                               NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                   APPLICANT: Stacker, Steven A.; Hovens, Christopher M., APPLICANT: Wilks, Andrew F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 318-3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 11-May-1992
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6107472man D.
REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                      TLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA
ZIP: 10103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: New York
                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
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                                              DDRESSEE:
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                                                                                                                                                                                                                                                                              49 HYALS
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New York
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                                  666 Fifth Ave
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fulbright & Jaworski L.L.P
                                                Fulbright & Jaworski L.L.P
                                                                                                                                                                                                                                                                              53
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                                                                                                      RECEPTOR-TYPE TYROSINE KINASE-LIKE MOLECULES
                                                                                                                                                                                                                                                                                                                                                                 89.3%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                   4.7e+02;
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USA

Diskette, 3.5 inch, 720 KB storage

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US-08-335-865J-20
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Best Local &
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: prote
ORIGINAL SOURCE: hum
                                                                                SOFTWARE: ASCII/Wordperfect
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/335,865J
FILING DATE: 19-January-1995
CLASSIFICATION:
                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Hanson, No. 6107472man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD-52
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: PCT/
FILING DATE: 10-May-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PL23
                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEB: Filbright & Jaworski L.L.P.
STREET: 666 Fifth Ave
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CURRENT APPLICATION DATA:
            PILING DATE: 10-May-1993
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: RECEPTOR-TYPE TYROSINE KINASE-LIKE MOLECULES NUMBER OF SEQUENCES: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 11-May-1992
ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Diskett
COMPUTER: IBM PS/2
                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                            COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/335,865J FILING DATE: 19-January-1995 CLASSIFICATION:
                                                                                                                                                                       OPERATING SYSTEM:
                                                                                                                                                                                                                                                                               CITY: New York
STATE: New York
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APPLICATION NUMBER:
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4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                       Stacker, Steven A.; Hovens, Christopher M.,
                                                                                                                                                                                         IBM PS/2
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                                                 PCT/AU93/00210
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Pred. No. 5e+0
1; Mismatches
                                                                                                                                                                                                        720 KB storage
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US-09-252-991A-24741
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                                                                                                                                                                                                               Sequence 7, Application US/09147236A Patent No. 6316251 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 24741, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 24741
LENGTH: 628
                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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Best Local Similarity
APPLICANT: TONOUCHI, Naoto
APPLICANT: TSUCHIDA, Takayasu
APPLICANT: TSUCHIDA, Takayasu
APPLICANT: TONOUGHI, Takayasu
APPLICANT: TAHARA, Naoki
APPLICANT: HAYASHI, Takahisa
TITLE OP INVENTION: NOVEL GENE, GROUP OF GENES, AND NOVEL BETA-GLUCOSIDASE
FILE REFERENCE: 6537-011-0PCT
CURRENT APPLICATION NUMBER: US/09/147,236A
CURRENT FILING DATE: 1999-04-08
EARLIER APPLICATION NUMBER: PCT/JP97/03633
EARLIER APPLICATION NUMBER: PCT/JP97/03633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 1998-02-18 PRIOR APPLICATION NUMBER: US PRIOR FILING DATE: 1998-07-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/252,991A CURRENT FILING DATE: 1999-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 33142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: MARC J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein ORIGINAL SOURCE: human
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REFERENCE/DOCKET NUMBER: LUD-52
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                       604 HYAMA 608
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Pred. No.
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Pred. No.
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GENERAL INFORMATION:

APPLICANT: TONOUCHI, Naoto

APPLICANT: TOUGHIDA, Takayasu

APPLICANT: YOSHINAGA, Fumithiro

APPLICANT: YOSHINAGA, Fumithiro

APPLICANT: YOSHINAGA, Fumithiro

APPLICANT: HAYASHI, Takahisa

APPLICANT: HAYASHI, Takahisa

FILE RETERENCE: 6537-011-0PCT

CURRENT APPLICATION NUMBER: US/09/522,474

CURRENT FILING DATE: 2000-03-09

PRIOR APPLICATION NUMBER: US/09/147,236

PRIOR APPLICATION NUMBER: US/09/147,236

PRIOR APPLICATION NUMBER: US/09/147,236

PRIOR APPLICATION NUMBER: PCT/JP97/03633

PRIOR APPLICATION NUMBER: PCT/JP97/03633

PRIOR APPLICATION NUMBER: US/09/147,236

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 7

LENGTH: 735

TYPE: PRT

ORGANISM: Acetobacter xylinum

FEATURE:

COUNTED INFORMATION: n at confiring 15741 and 15767 may be a cf. f. or
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US-09-095-881-14
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                                  Sequence 14, Application US/09095881

PATENT NO. 6489137

GENERAL INFORMATION:
APPLICANT: Seeley, Todd
TITLE OF INVENTION: DETECTION OF LOSS OF THE WILD-TYPE
TITLE OF INVENTION: DETECTION OF LOSS OF THE WILD-TYPE
TITLE OF INVENTION: DETECTION OF LOSS OF THE WILD-TYPE
TITLE REFERENCE: 1405.003 / 200130.437

CURRENT APPLICATION UMBER: US/09/095,881

CURRENT FILING DATE: 1998-06-11

NUMBER OF SEQ ID NOS: 15
                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 4; Conserv
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SOFTWARE: F
SEQ ID NO 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Acetobacter xylinum FEATURE:
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                    FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                              89.3%;
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Pred. No. 6.2e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                            Score 25; DB 4;
Pred. No. 6.2e+02;
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Sequence 6089, Application US/09621976

Patent No. 6639063

GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
APPLICANT: Jobert, S.
APPLICANT: Jobert, S.
TITLE OF INVENTION: EST8 and Encoded Human Proteins.
FILE REFERENCE: GENSET.054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 6089
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; Sequence 13625, Application US/09489039A
; Patent No. 6610836
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Matches
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PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 13625
                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: GATY BRETON et. al
APPLICANT: GATY BRETON et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT APPLICATION UNMERS: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
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Best Local Similarity
Matches 4; Conserv
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                                                          Matches
                                                                        Query Match
Best Local
                                                                                                                           LENGTH: 63
TYPE: PRT
ORGANISM: Klebsiella pneumoniae
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OTHER INFORMATION: Xaa =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens FEATURE:
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23 HYAM 26
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100.0%; Pred. No.
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RESULT 40

US-09-248-796A-26555

Sequence 26555, Application US/09248796A

Patent No. 6747137

GENERAL INFORMATION:

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN

TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

CURRENT PILING DATE: 1999-02-12

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR APPLICATION NUMBER: US 60/096,409

PRIOR FILING DATE: 1998-08-13

NUMBER OF SEQ ID NOS: 28208

SEQ ID NO 26555

LENGTH: 77

TYPE: PRT

COCANISM: Candida albicans
Search completed: December 17, 2004, 18:32:07 Job time: 4.03371 secs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 39
US-09-270-767-62479
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Patent No. 6703491

GENERAL INFORMATION:
APPLICANT: Homburger et al.
APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT APPLICATION MUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 62479
LENGTH: 68
TYPE: PRT
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Best Local Similarity 80.0%;
Matches 4; Conservative
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Pred. No. 98;
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Maximum Match 100%
Listing first 45 summaries
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seq length: 2000000000
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185.159 Million cell updates/sec
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1: /cgn2-6/ptodata/2/pubpaa/US07 PUBCOMB.pep:*

2: /cgn2-6/ptodata/2/pubpaa/PCT NEW PUB.pep:*

3: /cgn2-6/ptodata/2/pubpaa/US06 NEW PUB.pep:*

4: /cgn2-6/ptodata/2/pubpaa/US06-PUBCOMB.pep:*
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/ cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep:*
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/ cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US10D_PUBCOMB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US10D_PUBCOMB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
/ cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
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                  15 US-10-282-122A-44196

15 US-10-282-122A-71569

15 US-10-717-1318-6

15 US-09-764-304-8

9 US-09-764-304-18

14 US-10-265-713-18

14 US-10-265-713-18

14 US-10-166-626-18

14 US-10-166-626-18

14 US-10-369-493-10250
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US-09-770-834-6
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Sequence 5, Appli
Sequence 6, Appli
Sequence 44165, A
Sequence 71569, A
Sequence 8, Appli
Sequence 8, Appli
Sequence 18, Appli
Sequence 10250, A
Sequence 10250, A
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e 117	equence 203	e 269	e 1, Appl	equence 2, Appl	e 3,	eguence 225898,	quence 93	equence 1	0	Sequence 207366,	1.1	equence 1	(D	equence 1	equence 17298	Sequence 270245,	18465	231	18093	27537	31300	e 1991	214263	261	9 17779	2	e 18142	equence 27981	e 24064	equence 18915	, Ap

ALIGNMENTS

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RESULT 2
US-09-770-834-6
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                                                                                                                                                                                                                                                    ; TYPE: PRT ; ORGANISM: Staphylococcus US-09-771-383-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 5, Application US/09771383; Patent No. US20020094562A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-771-383-5
                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn version 3.0 SEQ ID NO 5 LENGTH: 119
                                                                                                                                                                   Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Parris, Kevin
APPLICANT: Somers, William
APPLICANT: Somers, William
APPLICANT: Lin, Laura
APPLICANT: Lin, Laura
APPLICANT: Lin, Laura
APPLICANT: Stahl, Mark
TITLE OF INVENTION: CRYSTAL STRUCTURE OF ACYL CARRIER PROTEIN SYNTHASE
TITLE OF INVENTION: AND ACYL CARRIER PROTEIN SYNTHASE COMPLEX
FILE REFERENCE: 2368/12
FILE REFERENCE: 2368/12
FILE REFERENCE: 2368/12
FILE REFERENCE: 2006-01-25
PRIOR APPLICATION NUMBER: US 60/178,639
PRIOR FILING DATE: 2000-01-28
NUMBER OF SEQ ID NOS: 13
                                                                                     106 HYAMS 110
                                                                                                               1 HYAMS 5
                                                                                                                                                                   5; Conservative
                                                                                                                                                                                       100.0%; Score 28; DB 9;
100.0%; Pred. No. 1.2e+02;
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US-09-824-734-4

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APPLICANT: Wall, Daniel
APPLICANT: Wall, Daniel
APPLICANT: Carr, Grant
APPLICANT: Carr, Grant
APPLICANT: Carr, Grant
APPLICANT: Carr, Grant
APPLICANT: You H.
APPLICANTON: Identification of Essential Genes in Mic:
FILE REFERENCE: ELITRA.034A
CURRENT APPLICATION NUMBER: US/10/282,122A
CURRENT FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/210,078
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR FILING DATE: 2000-09-06
PRIOR APPLICATION NUMBER: 60/230,335
PRIOR APPLICATION NUMBER: 60/230,335
PRIOR APPLICATION NUMBER: 60/230,347
PRIOR FILING DATE: 2000-09-06
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR APPLICATION NUMBER: 60/265,625
PRIOR APPLICATION NUMBER: 60/267,636
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/257,636
PRIOR APPLICATION NUMBER: 60/267,636
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 44196, Application US/10282122A Publication No. US20040029129A1
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: POWERS, ROBERT
APPLICANT: Xu, Guan-Yi
TITLE OF INVENTION; CRYSTAL STRUCTURE OF ACPS/ACP COMPLEX, SOLUTION STRUCTURE
TITLE OF INVENTION; OP B. SUBTILIS ACP, AND USES THEREOF
FILE REFERENCE: 2568/14
CURRENT APPLICATION NUMBER: US/09/770,834
CURRENT FILING DATE: 2001-10-12
PRIOR APPLICATION NUMBER: US 60/202,466
PRIOR PILING DATE: 2000-05-08
PRIOR FILING DATE: 2000-05-08
PRIOR FILING DATE: 2000-05-08
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APPLICANT: Somers, Will:
APPLICANT: Tam, Amy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
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No. US20030211588A1
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Powers, Robert
Xu, Guan-Yi
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Malone, Cheryl
Haselbeck, Robe
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Zyskind, Judith
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Query Match
Best Local Similarity
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Query Match
Best Local Similarity
"hes 5; Conserva
                                                                                         ; ORGANISM: Staphylococcus haemolyticus US-10-282-122A-71569
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; TYPE: PRT
; ORGANISM: Staphylococcus aureus
US-10-282-122A-44196
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PRIOR FILING DATE: 2001-02-16
Remaining Prior Application data removed
NUMBER OF SEQ ID NOS: 78614
SOFTWARE: PatentIn version 3.1
SEQ ID NO 44196
                                                                                                                               SOFTWARE: PatentIn version
SEQ ID NO 71569
LENGTH: 119
TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Identification of Essential Genes in Microorganisms FILE REFERENCE: ELITEA.034A CURRENT APPLICATION NUMBER: US/10/282,122A CURRENT FILING DATE: 2003-02-20 PRIOR APPLICATION NUMBER: 60/191,078 PRIOR FILING DATE: 2000-03-21 PRIOR FILING DATE: 2000-03-21
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PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/230,335
PRIOR FILING DATE: 2000-09-06
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                                                                                                                                                                                                     Remaining Prior Application data removed - See File Wrapper or PALM NUMBER OF SEQ ID NOS: 78614
                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 60/269,308 PRIOR FILING DATE: 2001-02-16
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APPLICATION NUMBER: 60/253,625
FILING DATE: 2000-11-27
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FILING DATE: 2000-09-09
APPLICATION NUMBER: 60/242,578
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Zamudio, car
Zamudio, cheryl
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Forsyth, R.
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Zyskind, Judith
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Trawick, John
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               100.0%; Score 28; DB 15; llarity 100.0%; Pred. No. 1.2e+02; Conservative 0; Mismatches 0;
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dio, Carlos
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                                                    Length 119;
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FILE REFERENCE: 2368/14

CURRENT APPLICATION NUMBER: US/10/717,138

CURRENT FILING DATE: 2003-11-19

PRIOR APPLICATION NUMBER: US/09/770,834

PRIOR APPLICATION NUMBER: US/09/770,834

PRIOR APPLICATION NUMBER: US 60/202,466

PRIOR FILING DATE: 2001-05-08

NUMBER OF SEQ ID NOS: 16

SOFTWARE: Patentin version 3.0

SEQ ID NO 6

LENGTH: 119
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER PILING DATE: 1995-03-21
EARLIER PILING DATE: 1996-08-17
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER FILING DATE: 1992-09-17
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOTTWARE: PACENTIN VEY: 2.0
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Xu, Guan-Yi
TITLE OF INVENTION: CRYSTAL STRUCTURE OF ACPS/ACP COMPLEX,
TITLE OF INVENTION: OF B. SUBTILIS ACP, AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
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APPLICANT: Somers, William
                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                   FITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 quence 8, Application US/09764304 tent No. US20020026036A1
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Lin, Laura
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Powers, Robert
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Pred. No. 1.2e+02;
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Sequence 8, Application US/10265713
Publication No. US20030095964A1
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
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Best Local Similarity
Them 5; Conserv
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, ORGANISM: Artificial Sequence
; FEATURE;
; OTHER INFORMATION: CDNA KM-641
US-09-764-304-18
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EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/408,133
EEARLIER APPLICATION NUMBER: US 08/292,178
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER APPLICATION NUMBER: JP 3-238375
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Best Local Similarity
Matches 5; Conserv
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SEQ ID NO 18
LENGTH: 130
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAAI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
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FILE REFERENCE:
                                    APPLICANT:
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE::
        CANT: MIYAJI, HIROMASA
CANT: KUMANA, YOSHIHISA
OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41 HYAMS
                                                                                                                                                                                                                                                                    41 HYAMS 45
                                                                                                                                                                                                                                                                                            1 HYAMS
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                                                                                                                                                                                                                                                                                                                                                Conservative
249-101
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Pred. No. 1.3e+02;
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APPLICANT: MUMANA, YOSHIHISA
TITLE OF INVENTION PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR PILING DATE: 1995-05-31
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1994-08-17
PRIOR FILING DATE: 1994-08-17
PRIOR FILING DATE: 1994-08-17
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PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR FILING DATE: 1999-01-05
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,179
PRIOR APPLICATION NUMBER: US 08/292,179
PRIOR APPLICATION NUMBER: US 08/292,179
PRIOR APPLICATION NUMBER: US 08/293,75
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US-10-265-713-8
                                                                                                                                                                                                            SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 18
LENGTH: 130
TYPE: PRT
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Publication No.
                             Query Match
Best Local Similarity
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          Matches
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                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
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SOFTWARE: PatentIn Ver. 2.0
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                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 19
                                                                                                                              OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641
                                                                                                                                                         ORGANISM: Artificial Sequence
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        Conservative
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100.0%; Score 28; DB 14;
100.0%; Pred. No. 1.3e+02;
tive 0; Mismatches 0;
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Pred. No.
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US-10-166-626-18
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CURRENT FILING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR PILING DATE: 1999-01-05
PRIOR PILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR FILING DATE: 1994-08-17
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Publication No. US20030166876A1
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Best Local Similarity
                                                                                                                                                        FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR FILING DATE: 1999-01-05
PRIOR FILING DATE: 1999-01-05
                                                                                                                                                                                                                                                                                APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: MUYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                        PRIOR APPLICATION NUMBER: US 08/454,680 PRIOR FILING DATE: 1995-05-31 PRIOR APPLICATION NUMBER: US 08/408,133 PRIOR FILING DATE: 1995-03-21 PRIOR APPLICATION NUMBER: US 08/292,178 PRIOR APPLICATION NUMBER: US 08/292,178
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APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: VITTANA
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NUMBER OF SEQ ID NOS: 19
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TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641
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FILING DATE: 1992-09-17
APPLICATION NUMBER: JP 3-238375
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1994-08-17
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GENERAL INFORMATION:

APPLICANT: ZHU, JIAN KANG
APPLICANT: SHI, HUAZHONG
APPLICANT: SHI, HUAZHONG
APPLICANT: STEVENSON, BECKY
TITLE OF INVENTION: PROTEINS AND DNA RELATED TO
FILE REFERENCE: 205644US20
CURRENT APPLICATION NUMBER: US/09/824,734
CURRENT FILING DATE: 2001-04-04
PRIOR APPLICATION NUMBER: US 60/194,648
PRIOR FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 38-10(52052)B

CURRENT APPLICATION NUMBER: US/10/369,493

CURRENT FILING DATE: 2003-02-28

PRIOR APPLICATION NUMBER: US 60/360,039

PRIOR FILING DATE: 2002-02-21

NUMBER OF SEQ ID NOS: 47374

SEQ ID NO 10250

LENGTH: 412

TYPE: PRT
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SEQ ID NO 18
LENGTH: 130
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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US-09-824-734-4
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US-10-369-493-10250
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Best Local Similarity
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APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianfeng
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PRIOR APPLICATION NUMBER: JP :
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
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US-09-824-734-4
                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
US-10-437-963-189155
                                                                                                                                                                                                                                          APPLICANT: Wu, Wei
APPLICANT: Bon'th
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                                                                      CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
SEQ ID NO 189155
LENGTH: 1031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: US 60/194,648
PRIOR FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 20
SOPTWARE: Patentin version 3.1
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: La Rosa, Thomas J.
APPLICANT: Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                              Sequence 189155, Application US/10437963
Publication No. US20040123343A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: ZHU, JIAN-KANG
APPLICANT: SHI, HUAZHONG
APPLICANT: ISHITANI, MANABU
APPLICANT: STEVENSON, BECKY
TITLE OF INVENTION: PROTEINS AND DNA RELATED TO SALT TOLERANCE IN PLANTS
FILE REFERENCE: 205644US20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/749,386
CURRENT FILING DATE: 2004-01-02
PRIOR APPLICATION NUMBER: US/09/824,734
PRIOR FILING DATE: 2001-04-04
                                                                                                                                                                   APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53221)B
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TYPE: PRT
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TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Pseudomonas aeruginosa
OTHER INFORMATION: Clone ID: PAT_MRT4530_85691C.1.pep
                     FEATURE:
                                     ORGANISM: Oryza sativa
                                                           TYPE: PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity hes 5; Conserv
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Barbazuk, Brad
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                                                                                                                                                                                                                                                                                                 rongwei
                                                                                                                                                                                                                                                                                                                         Yihua
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 28; DB 16; 100.0%; Pred. No. 4.2e+02;
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                                                                                                                                                                                                                                                                                                                                                                                   RESULT 17
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NO 240643
SEQ ID NO 240643
LENGTH: 53
                                                                                                                                    NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 279811
LENGTH: 54
                                                                                                                                                                                                                                                                                                                     Sequence 279811, Application US/10425115
Publication No. US20040214272A1
GENERAL INFORMATION:
Query Match
Best Local Similarity
Matches 4; Conserv
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Glycine max
FEATURE:
NAME/KEY: unsure
LOCATION: (1)..(53)
                                                                                                                                                                                  TITLE OF INVENTION: Nucleic Acid Molecules TITLE OF INVENTION: Plants FILE REFERENCE: 38-21(53222)B CURRENT APPLICATION NUMBER: US/10/425,115 CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                                                                           APPLICANT: Kovalic, Dav
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                          APPLICANT: La Rosa, Thomas J. APPLICANT: Kovalic, David K.
                                                                                            FEATURE:
                                                                                                        TYPE: PRT
ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
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llarity 80.0%;
Conservative
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 Score 25; DB 17;
Pred. No. 2.6e+02;
1; Mismatches 0
                                                                         MRT4577_186768C.1.pep
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Pred. No. 2.6e
1; Mismatches
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                             DB 17; Length 54;
                                                                                                                                                                                                                                             and Other Molecules Associated With
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RESULT 20
US-10-424-599-177790
; Sequence 177790, Application US/10424599
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US-10-425-115-249920
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Best Local
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Best Local
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                                                                                                                                                                                                                                                             TYPE: PRT
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, OTHER INFORMATION: Clone ID: PAT_MRT3847_134837C.1.pep US-10-424-599-181420
                                                                                             ; OTHER INFORMATION: Clone ID: MRT4577_159510C.1.pep US-10-425-115-249920
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Publication No. US20040031072A1

GENERAL INFORMATION:

APPLICANT: La ROSB Thomas J

APPLICANT: Chou Yihua

APPLICANT: Chou Yihua

APPLICANT: Chou Yongwei

TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plante and Uses Thereof for Plant Improvement

FILE REFERENCE: 38-21(5323)B

FULE REFERENCE: 38-21(5323)B

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 285684

SEQ ID NO 181420

LENGTH: 57

TYPER: DET
                                                                                                                                                                                                         Sequence 249920, Application US/10425115

Publication No. US20040214272A1

GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Chou, Yihua
APPLICANT: Chou, Yihua
APPLICANT: Chou, Yongwei
APPLICANT: Chou, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(5222)B

FULE REFERENCE: 38-21(5222)B

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 369326

SEQ ID NO 249920

LENGTH: 57

LENGTH: 57
                      Score 25;
Pred. No.
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Pred. No.
Mismatches
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2.8e+02;
                         2.8e+02;
                                             DB 17; Length 57;
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APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 17790
LENGTH- 60
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDICATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: DOUGLAS SMITH et al
APPLICANT: DOUGLAS SMITH et al
TITLE OF INVENTION: NUCLEIC ACID AMINO ACID SEQUENCES
RELATING TO HELICOBACTER PYLORI FOR
DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Clone ID: PAT_MRT3847_131560C.1.pep
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: unsure
LOCATION: (1)..(58)
OTHER INFORMATION: unsure at all Xaa locations
FEATURE:
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                                            INFORMATION FOR SEQ ID NO: 8261:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM IS09660
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: Windows NT 4.0
SOFTWARE: UNIX
                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/993,002
FILING DATE: 17-DEC-1997
ATTORNEY/AGENT INFORMATION:
SEQUENCE CHARACTERISTICS:
LENGTH: 58 amino acids
                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/335,977
FILING DATE: 30-Dec-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                        TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION:
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                                                                                                                          NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: GTN-018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: Massachusetts
                                                              TELEPHONE: (617)227-7400
TELEFAX: (617)742-4214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAHIVE & COCKFIELD
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Pred. No.
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APPLICANT: Chou Yihua

APPLICANT: Chou Yihua

APPLICANT: Cao Yongwei

TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement

FILE REFERENCE: 38-21(5323)B

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT APPLICATION OF SEQ ID NOS: 285684

SEQ ID NO 199143

LENGTH: 77

LENGTH: 77
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US-10-424-599-214263
US-10-424-599-199143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 214263
LENGTH: 70
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
             OTHER INFORMATION: Clone ID: PAT_MRT3847_21850C.1.pep
                            ORGANISM: Glycine max FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Glycine max FEATURE:
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LOCATION:
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Kovalic David K
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(B) LOCATION 1...58
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Pred. No.

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Pred. No.
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Best Local Similarity
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                                                                  ; OTHER INFORMATION: Clone ID: PAT_MRT3847_90688C.1.pep
US-10-424-599-275379
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                                                                                                                                                                                               APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 275379
LENGTH: 85
TYPE: PRT
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LENGTH: 84
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APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
TITLE OF INVENTION: Nucleic Acid Molecules
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
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                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
                                                                                               NAME/KEY: unsure
LOCATION: (1)..(85)
OTHER INFORMATION: unsure at
FEATURE:
                                                                                                                                                                   ORGANISM: Glycine max FEATURE:
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               89.3%;
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                                                                                                                  all Xaa locations
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1; Mismatches
               Score 25; DB 15; Length 85; Pred. No. 4.1e+02;
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Pred. No. 4e+02;
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Pred. No.
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3.7e+02;
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; TYPE: PRT; ORANISM: Glycine max; FEATURE: ; PEATURE: ; CTHER INFORMATION: Clone ID: PAT_MRT3847_134394C.1.pep US-10-424-599-180930
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APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (5322) B
FULE REFERENCE: 38-21 (5322) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 180930
LEMOTH: 86
LEMOTH: 86
LEMOTH: 86
                                                                          Query Match
Best Local S
Matches 4
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CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 231987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 231987, Application US/10424599 Publication No. US20040031072A1
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APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
                                                                                                                                                                                                           NAME/KEY: unsure
LOCATION: (1)..(86)
OTHER INFORMATION: unsure at all Xaa locations
                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Glycine max
                                                                                                                                                                                         FEATURE:
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                                                                                                                                                                                                                                                                                                                               LENGTH: 86
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  26 HYALS
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                                      1 HYAMS
                                                                          Similarity 4; Conser
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                                                                                            89.3%;

    Mismatches

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Pred. No. 4.1e+02;
                                                                                              Score 25; DB 15;
Pred. No. 4.1e+02;
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                                                                              Gaps
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules an
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT APPLICATION MUMBER: US/10/425,115
CURRENT FILLING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 270245
LENGTH: 99
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US-10-425-115-270245
; Sequence 270245, Application US/10425115
; Publication No. US20040214272A1
                                                           RESULT 30
US-10-437-963-172988
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APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE REFERENCE: 38-21(5322)B
FILE REFERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 184650
LENGTH: 89
Sequence 172988, Application US/10437963 Publication No. US20040123343A1 GENERAL INFORMATION:
                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                Query Match
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NAME/KEY: unsure
LOCATION: (1)..(99)
OTHER INFORMATION: unsure at all Xaa locations
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                                                                                                                                                                                                                                               Local Similarity
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Local Similarity 80.0%;
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                                                                                                                                           10 HYALS
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80.0%;
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Pred. No.
                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                           4.7e+02
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; OTHER INFORMATION: Clone ID: PAT_MRT4530_64563C.1.pep
US-10-437-963-165791
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                                                                                                                                                                                       SEQ ID NO 165791
LENGTH: 107
TYPE: PRT
ORGANISM: Oryza sativa
                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 165791, Application US/10437963 Publication No. US20040123343A1
                                                                   Matches
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Best Local Similarity
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APPLICANT:
APPLICANT:
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CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
                                                                                                                                                                                                                                                                                                               APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53221)B
                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
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ORGANISM: Oryza sativa
PEATURE:
NAME/KEY: unsure
LOCATION: (1)..(100)
OTHER INFORMATION: unsure at all Xaa locations
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69 HYAMT 73
                                1 HYAMS 5
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                                                                 4; Conservative
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Kovalic, David
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Cao, Yongwei
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Barbazuk, Brad
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                                                                Score 25; DB 16;
Pred. No. 5.1e+02;
1; Mismatches 0
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Pred. No.
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                                                                     Indels
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RESULT 32 US-10-282-122A-77481

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US-10-437-963-106924
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CURRENT FILING DATE: 2003-02-20
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
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Matches
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APPLICANT:
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APPLICANT:
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APPLICANT:
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APPLICANT: Kovalic, David
APPLICANT: Zhou, Yihua
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APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53221)B
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TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
                                                                                                                     APPLICANT:
                                                                                                                                      APPLICANT:
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PRIOR FILING DATE: 2001-02-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Vibrio cholerae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENGTH: 126
                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
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FILING DATE: 2000-11-27
APPLICATION NUMBER: 60/257,931
FILING DATE: 2000-12-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/267,636 FILING DATE: 2001-02-09
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APPLICATION NUMBER: 60/242,578
FILING DATE: 2000-10-23
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                                                                                                                     Kovalic, David K.
Zhou, Yihua
Cao, Yongwei
Wu, wai
                                                                          Boukharov, Andrey
Barbazuk, Brad
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Zyskind, Judith
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Malone, Cheryl
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Pred. No. 6e+0
1; Mismatches
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. 6e+02;
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; FEATURE:
; OTHER INFORMATION: Clone ID: MRT4577_91685C.1.pep
US-10-425-115-360208
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US-10-424-599-207366
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; OTHER INFORMATION: Clone ID: PAT_MRT4530_11324C.1.pep
US-10-437-963-106924
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                                                 CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 207366
LENGTH: 135
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CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
SEQ ID NO 106924
LENGTH: 131
TYPE: PRT
ORGANISM: Oryza Bativa
                                                                                                                                                                                                                                                                                Sequence 207366, Application US/10424599 Publication No. US20040031072A1 GENERAL INFORMATION:
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SEQ ID NO 360208
LENGTH: 131
TYPE: PRT
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Best Local Similarity
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Publication No. US20040214272A1
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Best Local Similarity
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                                                                                                                                               APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
                                                                                                                                                                                                      APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwe
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APPLICANT: Kovalic David K
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FEATURE:
               ORGANISM: Glycine
                                     TYPE: PRI
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Pred. No.
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Pred. No. 6.2e+02;
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NAME/KEY: unsure

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RESULT 37
US-10-424-599-188149
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US-10-424-599-177566
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                                                                           ; OTHER INFORMATION: Clone ID: US-10-424-599-188149
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Query Match
Best Local Similarity 80.0
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SEQ ID NO 177566
LENGTH: 136
                                                                                                                                                        NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 188149
LENGTH: 148
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TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                       APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)8
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
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OTHER INFORMATION: ungure at
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                                                                                                           ORGANISM: Glycine max FEATURE:
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Kovalic David K
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          Score 25; DB 15
Pred. No. 7e+02;
1; Mismatches
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Pred. No. 6.4e+02;
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                                         DB 15;
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Best Local
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                                                                                                                                                                                        LENGTH: 174
TYPE: PRT
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; FEATURE:
; OTHER INFORMATION: Clone ID:
US-10-425-115-225898
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APPLICANT: ROSEN et al.
TITLE OF INVENTION: Nucleic Acids, Proteins,
FILE REFERENCE: PTZ32
CURRENT APPLICATION NUMBER: US/09/764,868
CURRENT FILING DATE: 2001-01-17
Prior application data removed - refer to PAL
NUMBER OF SEQ ID NOS: 1510
                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 225898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 225898, Application US/10425115 Publication No. US20040214272A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 938
LENGTH: 150
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                                                                                                               ORGANISM: Zea mayø
FEATURE:
NAME/KEY: unsure
LOCATION: (1)..(174)
OTHER INFORMATION: unsure a
                                                                                                                                                                                                                                                                                            APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OP INVENTION: Nucleic Acid Molecules
TITLE OP INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
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NAME/KEY: SITE
LOCATION: (71)
OTHER INFORMATION: 
NAME/KEY: SITE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION: (105)
OTHER INFORMATION:
NAME/KEY: SITE
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Pred. No.
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Score 25;
Pred. No.
DB 17;
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                  Length 174;
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Sequence 3, Application US/10275589

Publication No. US20040023864A1

GENERAL INFORMATION:

APPLICANT: Dubois-Stringfellow, Nathalie

APPLICANT: Steve, Roczniak

APPLICANT: Solotorev, Alya

TITLE OF INVENTION: Method of Regulating Angiogenesis Using RYK Protein

FILE REFERENCE: MSB 7266

CURRENT APPLICATION NUMBER: US/10/275,589

CURRENT APPLICATION NUMBER: US/10/275,589

CURRENT FILING DATE: 2002-11-06

PRIOR APPLICATION NUMBER: US 99/568,783

PRIOR FILING DATE: 2000-05-11

NUMBER OF SEQ ID NOS: 23

SOFTWARE: Patentin version 3.2

SEQ ID NO 3

LENCTH: 180

TYPE: PRT

ORGANISM: HOMO SAPIENS

US-10-275-589-3
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77 HYALS 81
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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28
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pir1:*
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(without alignments)
2449665 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result

Regult No	Score 28 28 28 28 28 28	000000182	Length 119 143 146 185 280 280	มมมมมมม B	N010000
	222	000	280 280 284	NNN	2001
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16	25		126	N	F82072
17	25	•	216	N	JL0090
18	25	•	221	N	S69682
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21	25		287	N	T22325
22	25	٠	287	N	T22324
23	25	٠	310	N	T43158
24	25	•	312	N	H89884
25	25	•	313	N	T23675
26	25		314	N	T43299
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B87201	H64925	C90927	G85775	F87356	AB1068	H83088	A65050	B85918	F91073	AB0844	A90728	B85579	AE0595	BVECHD	E75301
hypothetical prote	aminotransferase i	selenocysteine lya	selenocysteine lya	hypothetical prote	probable membrane	membrane-bound ly	membrane-bound ly	membrane-bound lyt	. 14	. 12	ATP-binding compor	ATP-binding compon	molybdenum transpo	molybdenum transpo	conserved hypothet

ALIGNMENTS

A;Residues: 1-119 <KUR>
A;Cross-references: UNIPROT:Q99SI4; GB:BA000018;
A;Experimental source: strain N315
C;Genetics: C;Accession: E89999

R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.; ma, A.; Misutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu, C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K. Lancet 357, 1225-1240, 2001

A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus. A;Reference number: A89758; MUID:21311952; PMID:11418146 밁 S A;Gene: dpj C;Superfamily: holo-ACP synthase holo-ACP synthase [imported] - Staphylococcus aureus (strain N315)
C;Species: Staphylococcus aureus
C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004 A; Molecule type: A;Status: preliminary A;Accession: E89999 Query Match
Best Local Similarity
Matches 5; Conserv 106 HYAMS 110 1 HYAMS 5 DNA Conservative 100.0%; Score 28; DB 100.0%; Pred. No. 14; 0 Mismatches DB ب • PID:g13701866; PIDN:BAB43158.1; GSPDB:GP 0 Length 119; Indels 0; Gaps 0

RESULT 2 A71051

hypothetical protein PH1104 - Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Date: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 12-Jul-2004
C;Accession: A71051

R;Kawarabayasi, Y.; Sawada, M.; Horikawa, H.; Haikawa, Y.; Hino, Y.; Yamamoto, S.; Sekine M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kushida, N.; Oguchi, DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the genome of a hyper-thermophilic and A;Reference number: A71000; MUID:98344137; PMID:9679194
A;Accession: A71051

A;Status: preliminary; nucleic acid sequence not shown; translation not shown

A;Cross-references: UNIPROT:O58831; GB:AP000005; NID:g3236132; PIDN:BAA30203.1; PID:g325:A;Experimental source: strain OT3
A;Experimental source: strain OT3
A;Note: this accession replaces an interim accession for a common of the common of

PH1104

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hypothetical protein PAB2437 - Pyrococcus abyssi (s C;Species: Pyrococcus abyssi C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 C;Accession: E75216
                                                                    RESULT
E75216
                                                                                                                                                                                                                                                                                                                                                                                                                             R;Oliver, K.; Harris, D.; Bentley, S.D.; Parkhill, J.; submitted to the EMBL Data Library, August 1999
A;Reference number: Z21618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               probable aminoglycoside nucleotidyltransferase - Streptomyces coelicolor (;Species: Streptomyces coelicolor C;Date: 03.Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-20 C;Accession: T37007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-146 <XUR>
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R;DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Mujer, C.; Los, T.; Ivanova, ; Mazur, M.; Goltsman, E.; Selkov, E.; Elzer, P.H.; Hagius, S.; O'Callaghan, D.; Letess Proc. Natl. Acad. Sci. U.S.A. 99, 443-448, 2002
A;Title: The genome sequence of the facultative intracellular pathogen Brucella melitens A;Reference number: AD3252; PMID:11756688
A;Recession: AD3630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pseudoazurin [imported] - Brucella melitensis (strain 16M)
C;Species: Brucella melitensis
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 09-Jul-2004
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C;Superfamily: plastocyanin
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Best Local Similarity
Matches 5; Conser
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;Experimental source: strain 16M
                                                                                                                                                                                                                                                                                                                        Cross-references: UNIPROT:Q9RI70; Experimental source: strain A3(2)
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ilarity 100.0%;
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Pred. No.
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A;Residues: 1-284 <ARN>
A;Crosm-references: UNIPROT:09X018;
A;Experimental source: strain MSB8
C;Genetics:
A;Gene: TM0916

GB:AE001755;

GB:AE000512; NID:g4981432; PIDN:AAD3599

A; Molecule type: DNA A; Status: preliminary

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conserved hypothetical protein - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #text_change 09-Jul-2004
C;Accession: C72320
C;Accession: C72320
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hickey, Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson, D.;
                                                                                                                                                                                                                     RESULT
C72320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kushida, N.; Oguch DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the genome of a hyper-thermophilic A;Reference number: A71000; MUID:98344137; PMID:9679194
A;Accession: C71453
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C71453
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A;Residues: 1-280 «KAM»
A;Cross-references: UNIPROT:Q9V218; GB:AJ248283;
A;Experimental source: strain Orsay
C;Genetics:
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submitted to the EMBL Data Library, July 1999
A;Description: Pyrococcus abyssi genome sequer
A;Reference number: A75001
A;Accession: E75216
A;Status: preliminary
Nature 399, 323-329, 1999
A;Title: Evidence for lateral gene transfer between Archaea A;Reference number: A72200; MUID:99287316; PMID:10360571
A;Accession: C72320
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A, Note: this accession
C, Genetics:
A, Gene: PH0282
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C;Species: Pyrococcus horikoshii
C;Date: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 12-Jul-2004
C;Accession: C71453
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C; Superfamily:
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A;Experimental source: strain OT3
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A;Residues: 1-280 <KAW>
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Kushida, 1
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rson, J.D.; Sadow, P.W.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A. Science 273, 1058-1073, 1996
A;Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese, C.A;Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii A;Reference number: A64300; MUID:96337999; PMID:8688087
A;Accession: A64317
                                                                                                                                                                                                                                                                                                                                                                        A;Title: The complete genome of the hyperthermophilic bacterium Aquifex aeolicus. A;Reference number: A70300; MUID:98196666; PMID:9537320 A;Accession: A70371
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RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           conserved hypothetical protein aq_814 - Aquifex acolicus
C;Species: Aquifex acolicus
C;Date: 08-May-1998 #sequence_revision 08-May-1998 #text_change 09-Jul-2004
C;Accession: A70371
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C; Superfamily: 1
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C;Genetics:
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A;Residues: 1-286 <BUL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Superfamily: Aeropyrum
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                                                                                                                                                                                                        ;Gene: aq_814
;Superfamīly: Aeropyrum pernix hypothetical protein APE2212
                                                                                                                                                                                                                                                                          Experimental source: strain
                                                                                                                                                                                                                                                                            Cross-references: UNIPROT:066996; GB:AE000708; NID:g2983356; Experimental source: strain VF5
                                                                                                                                                                                                                                                                                                               Residues: 1-288 <AQF>
                                                                                                                                                                                                                                                                                                                                                  Status: preliminary; nucleic acid sequence not shown; translation
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Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Jul-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G.; Warren, P.V.; Gaasterland, T.; Young, W.G.; Lenox, A.L.; Graham,
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5; Conserve
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                                                                                                                                     Conservative
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Pred. No. 37;
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conserved hypothetical protein AF0856 - Archaeoglobus fulgidus C;Species: Archaeoglobus fulgidus C;Species: Archaeoglobus fulgidus C;Abate: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 09-Jul-2004 C;Accession: H69356 R;Klenk, H.P.; Clayton, R.A.: Tomb J.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: UNIPROT:Q58890; GB:U67590; GB:L77117; NID:g1592126; PIDN:AAB99506.1; C;Genetics:
A;Map position: FOR1468504-1469382
A;Start codon: GTG
C;Superfamily: Aeropyrum pernix hypothetical protein APE2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Bult, C.J.; White, O.; Olsen, G.J.; Zhou, L.; Fleischmann, R.D.; Sutton, G.G.; Blake, C.Reich, C.I.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, A.; rson, J.D.; Sadow, P.W.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A. Science 273, 1058-1073, 1996
A;Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese, C. A;Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii. A;Reference number: A64300; MUID:98337999; PMID:8688087
A;Accession: F64486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Residues: 1-291 <KLE>
A;Cross-references: UNIPROT:029403; GB:AE001045; GB:AE000782;
C;Superfamily: Aeropyrum pernix hypothetical protein APE2212
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A;Authors: Utterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S.N. Smith, H.O.; Woese, C.R.; Venter, J.C.
A;Title: The complete genome sequence of the hyperthermophilic, sulfate-reducing archaeor A;Reference number: A69250; MUID:98049343; PMID:9389475
A;Accession: H69356
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; KuDNA Res. 6, 83-101, 1999
DNA Res. 6, 83-101, 1999
A;Tille: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyru
A;Reference number: A72450; MUID:99310339; PMID:10382966
                                                                                                                                        hypothetical protein APE2212 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 09-Jul-2004
C;Accession: H72529
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A; Residues: 1-292 <BUL>
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C;Species: Methanococcus jannaschii
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Jul-2004
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                                                                                                           R;Kawarabayasi,
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                                                                                    Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.;
ya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki,
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preliminary

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Aypothetical protein alr3825 [imported] - Nostoc sp. (strain PCC 7120) C;Species: Nostoc sp. PCC 7120 A;Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120 C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Jul-2004 C;Accession: AB2284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S
DNA Res. 8, 205-213, 2001
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Ana
A;Reference number: AB1807; MUID:21595285; PMID:11759840
A;Accession: AB2284
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C;Superfamily: Aeropyrum
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A;Molecule type: DNA
A;Residues: 1-295 <KAW>
                                                                                                                                                                                                                                                                                   R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
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                                                                  A;Gene: nhaP; PA3887
C;Superfamily: hypotl
                                                                                                                           A;Molecule type: DNA
A;Residues: 1-424 <STO>
A;Cross-references: UNIPROT:082871;
A;Experimental source: strain PAO1
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C;Accession: C83159
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C; Superfamily: Aeropyrum pernix hypothetical protein
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A;Experimental source: strain PCC 7120
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                                                                                                                                                                                                                             A;Reference number: A82950;
A;Accession: C83159
                                                                                                                                                                                                                                                A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic patho
A;Reference number: A82950; MUID:20437337; PMID:10984043
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A;Residues: 1-297 <KUR>
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DB
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A.; Larbig,
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                                                                                                                                                                                                                                                                                                                             .J.; B:
    ependymin precursor - goldfish
N;Alternate names: preproependymin
C;Species: Carassius auratus (gold:
                                                              RESULT
JL0090
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submitted to the Protein Sec
A;Reference number: S62944
A;Accession: S62963
A;Molecule type: DNA
A;Residues: 1-839 <DUE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein YNL041c - yeast (Saccharomyces N;Alternate names: hypothetical protein N2675 C;Species: Saccharomyces cerevisiae C;Date: 27-Apr-1996 #sequence_revision 03-May-1996 #C;Accession: S62963 C;Accession: S62963
                                                                                                                                            A;Gene: VC2457
A;Map position: 1
C;Superfamily: holo-ACP
                                                                                                                                                                                                                                                                                                            A;Title: DNA Sequence of bot A;Reference number: A82035; A;Accession: F82072
                                                                                                                                                                                                                                                                                                                                                                    R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, I, R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M. Nature 406, 477-483, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 09-Jul-2004
C;Accession: F82072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             holo-(acyl-carrier-protein) synthase VC2457 [imported] - Vibrio cholerae (strain N16961 & C;Species: Vibrio cholerae
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F82072
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A;Map position: 14L
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A;Cross-references: SGD:S0004986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: UNIPROT:P53959; EMBL:Z71317; NID:g1301893; PID:e239673; PID:g1301894
A;Experimental source: strain S288C
                                                                                                                                                                                                                   A;Cross-references: UNIPROT:Q9KPB6; GB:AB004316; GB:AB003852; NID:g9657034; PIDN:AAF9559:
A;Experimental source: serogroup Ol; strain N16961; biotype El Tor
                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-126 <HEI>
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Best Local
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Best Local Similarity
Matches 5; Conser
                                                                       Matches
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115 HYAMA
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                                    1 HYAMS 5
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4; Conserv
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119
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                                                                                                                                                synthase
                                                                                                                                                                                                                                                                                                                                 both chromosomes of the cholera pathogen Vibrio cholerae
35; MUID:20406833; PMID:10952301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              th, M.; Fritz, C.; Heuss-Neitzel,
Sequence Database, April 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                        89.3%;
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Pred.
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Pred. No. 1.1e+02;
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H.; Dragoi, 1
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(goldfish)

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RESULT 18
S69682
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                                                                                                                                                                                                                                                                                                            R;Dietrich, F.S. submitted to the EMBL Data Library, July 1995 A;Description: The sequence of S. cerevisiae A;Reference number: S69665 A;Accession: S69682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Title: Molecular characterization of an ependymin precursor A;Reference number: JL0090; MUID:89068004; PMID:2908890 A;Accession: JL0090
S
                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-221 <DIE>
                                                                                                                                                                                                                                                                                                                                                                                                                          hypothetical protein YDR399w - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Date: 22-Aug-1996 #sequence_revision 06-Sep-1996 #text_change 09-Jul-2004
C;Accession: S69682
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A;Residues: 2-216 <ADA>
A;Cross-references: EMBL;U00433; NID:g397657; PIDN:AAA19566.1; PID:g397658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gene 141, 237-241, 1994
A,Title: Cloning and sequencing the genes encoding goldfish A;Reference number: I51377; MUID:94215910; PMID:8163195
A;Accession: I51378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: protein
A; Residues: 22-27, 'X', 29-45;110-123 < KO2>
A; Residues: 22-27, 'X', 29-45;110-123 < KO2>
A; Note: ependymins beta and gamma have the same amino-terminal
A; Note: 24-Asp, 29-Glu, and 34-Ile were also found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-216 <KOE>
A; Cross-references: UNIPROT: P13506; GB:X14134; NID:g62577;
A; Experimental source: brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 09-Jul-2004 C;Accession: JL0090; PS0306; T51378 R;Koenigstorfer, A.; Sterrer, S.; Eckerskorn, C.; Lottspeich, F.; Schmidt, J. Neurochem. 52, 310-312, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: PS0306
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Superfamily: ependymin
Superfamily: ependymin
Superfamily: ependymin
1-21/Domain: signal sequence #status predicted <SIG>
1-21/Domain: signal sequence #status predicted <SIG>
1-22-216/Product: ependymin #status experimental <MAT>
1-22-216/Product: ependymin #status experimental <MAT>
1-23-216/Binding site: carbohydrate (Asn) (covalent) #status predicted
1-23-23,185,185,186/Binding site: calcium (Glu, Glu, Asp, Asp) #status predicted
1-202,203,206,207/Binding site: calcium (Glu, Glu, Asp, Asp) #status predicted
                                         Query Match
Best Local S
Matches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Comment: Ependymins beta and gamma are nervous-system specific glycoproteins Comment: These proteins are reported as brain proteins that display enhanced Comment: Ependymin forms dimer with intermolecular disulfide bonds.
                                                                                                                                                         ;Cross-references:
;Map position: 4R
                                                                                                                                                                                                                                           Cross-references: UNIPROT:Q04178; EMBL:U32274; NID:g927313; PID:g927331; GSPDB:GN0000;
                                                                                                                                Superfamily: Schizosaccharomyces
                                                                                                                                                                                                   Gene: SGD:HPT1; MIPS:YDR399w
                                                                                                                                                       position:
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                                         Similarity
4; Conserv
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                                                              89.3%;
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Pred. No.
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Pred. No.
                                                                                                                                pombe hypothetical protein SPAC23C11.13c
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                                                              1.4e+02;
                                                                                      DB 2;
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                                                                                 hypothetical protein F46G10.3 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #tesC;Accession: T22325
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A;Reference number: A;Accession: T22325
                       submitted to the EMBL Data A; Reference number: 219548
                                                                 R;Coles,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Introns: 97/2; 164/1;
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Best Local
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hypothetical protein VC1577 [imported] - Vibrio cholerae (strain N16961 serogroup O1) C;Species: Vibrio cholerae C;Species: Vibrio cholerae C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 09-Jul-2004 C;Accession: C82182 R;Heidelbearg, JF; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R.J.; Chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, H.; Dragoi, I.; Sellers, P. 1, R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M.
Nature 406, 477-483, 2000 A;Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae. A;Reference number: A82035; MUID:20406833; PMID:10952301
                                                                                                                                                                                                                                   A;Cross-references: UNIPROT:Q9KRQ9; GB:AE004235; GB:AE003852; NID:g9656082; PIDN:AAF9473:
A;Experimental source: serogroup Ol; strain N16961; biotype El Tor
   Score 25;
Pred. No.
1; Mismatc
. 1.8e+02;
0;
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                                                                    Length 273;
          Indels
          <u>.</u>
   Gaps
          0
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R;Bentley, D.
submitted to the EMBL Data Library, December 1995
A.Description: The sequence of C. elegans cosmid EGAP2. A;Molecule type: DNA
A;Residues: 1-283 <BEN>
A;Cross-references: UNIPROT:Q19075; hypothetical protein EGAP2.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #tcC;Accession: T15932 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004 Score Pred. from EMBL:U42842; NID:g1125787; PID:g1125789; PIDN:AAA8355 GB/EMBL/DDBC No. DB 2; 1 Length 283; ٥. Gaps

0

15-Oct-1999 #text_change

09-Jul-2004

preliminary; translated from GB/EMBL/DDBJ

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RESULT 23
T43158
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A;Introns: 43/1; 77/2; 124/2; 151/2; 189/3; 250/3
C;Superfamily: conserved hypothetical protein b1120
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A;Molecule type: DNA
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                                                                      A;Cross-references: EMBL:D89247; NID:g1749701; PIDN:BAA13908.1; PID:g1749702
A;Experimental source: strain PR745
C;Superfamily: WD repeat homology
C;Keywords: GTP binding
                                                                                                                                                   A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-310 <YOS>
                                                                                                                                                                                                                          R;Yoshioka, S.; Kato, K.; Nakai, K.; Okayama, H.; Nojima, H.
DNA Res. 4, 363-369, 1997
A;Title: Identification of open reading frames in Schizosaccharomyces
A;Reference number: Z17323; MUID:98162722; PMID:9501991
                                                                                                                                                                                                                                                                                                     probable GTP-binding protein beta chain - fission yeast (Schizosaccharomyces pombe) C;Species: Schizosaccharomyces pombe C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 16-Aug-2004 C;Accession: T43158
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A;Introns: 43/1; 77/2; 124/2; 151/2; 189/3; 250/3
C;Superfamily: conserved hypothetical protein b1120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   submitted to the EMBL Data Library, July 1995
A;Reference number: Z19548
A;Accession: T22324
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A; Residues: 1-287 <WIL>
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                   89.3%;
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                   Score 25; DB 2;
Pred. No. 2e+02;
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Pred. No. 1.9e+02;
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Pred. No. 1.9e+02;
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Cibecies: Staphylococcus aureus
Cipate: 10.May-2001 #Bequence_revision 10-May-2001 #text_change 09-Jul-2004
Cipate: 10.May-2001 #Bequence_revision 10-May-2001 #text_change 09-Jul-2004
Cipates: 10.May-2001 #Bequence_revision 10.May-2001 #text_change 09-Jul-2004
Cipates: 10.May-2001 #Inoue, R.; Kobayashi, I.; Cui, L.;
Cipates: 157, 125-1240, 2001
A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.
A;Accession: H89884
A;Accession: H89884
probable GTP-binding regulatory protein beta chain - fission yeast (Schizos. N;Alternate names: guanine nucleotide regulatory protein C;Species: Schizosaccharomyces pombe C;Date: 11-Jan-2000 #sequence revision 11-Jan-2000 #text_change 16-Aug-2004 C;Accession: T43299; T39022 C;Accession: T43299; T39022 R;Fark, S.K.; Yoo, H.S. unpublished results 1994, cited by EMBL
                                                                                                                                            RESULT 26
T43299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein M02B1.4 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004 C;Accession: T23675 R;Lightning, J.
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A; Introns: 31/2; 195/3;
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A; Residues: 1-313 <WIL>
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A;Reference number: Z19780
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A; Residues: 1-312 < KUR>
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1; Mismatches
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2e+02;
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RESULT 28
A86202
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: UNIPROT:Q10281; EMBL:L37885; PIDN:AAA56865.1
A;Experimental source: isolate ED616
A;Gentles, S.; Churcher, C.M.; Barrell, B.G.; Rajandream, M.A.; Wood, submitted to the EMBL Data Library, August 1995
A;Reference number: Z21815
A;Accession: T39022
                     C;Accession: A86202
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
                                                                                                                                  hypothetical protein [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
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A; Residues: 1-324 < AER >
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C;Superfamily: WD repeat
C;Keywords: GTP binding
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A; Residues: 1-314 <GEN>
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    A;Authors: Hunter,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Superfamily: Arabidopsis thaliana hypothetical protein F2K15.180;
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rons: 19/1
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J.L.; Jenkins, J.;
                                                                                                                                                                                                                                                                                                      197
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1; Mismatches
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Pred. No. 2.1e+0
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    fission yeast (Schizosaccharomy)

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                                                                    Dewar,
                                                                    Alonso,
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    ဂ
C;Accession: E75301

R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.;

M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.;

S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.

Science 286, 1571-1577, 1999

A;Tille: Genome sequence of the radioresistant bacterium

A;Reference number: A75250; MUID:20036896; PMID:10567266
                                                                                                                                    conserved hypothetical protein - Deinococcus radiodurans (strain R1)
C;Species: Deinococcus radiodurans
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Nov-2003
C;Accession: E75301
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A;Molecule type: DNA
A;Residues: 1-325 <STO>
A;Cross-references: UNIP
C;Genetics:
A;Map position: 1
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C;Date: 20-Feb-1995 #sequence revision 20-Feb-1995 #text_change
C;Date: 20-Feb-1995 #sequence revision 20-Feb-1995 #text_change
C;Accession: S15238, J85888; 524220
R;Verma, N.K.; Brandt, J.M.; Verma, D.J.; Lindberg, A.A.
Mol. Microbiol. 5, 71-75, 1991
A;Title: Molecular characterization of the O-acetyl transferase
A;Reference number: S15238; MUID:91194560; PMID:2014005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, F Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H. A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W. A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis. A;Reference number: A86141; MUID:21016719; PMID:11130712
                                                                                                                                                                                      A;Gene: oac
C;Keywords: acyltransferase
                                                                                                                                                                                                                                                    A;Molecule type: DNA
A;Residues: 1-157,'L',159-168,'Q',170-333 <CLA>
A;Residues: 1-157,'L',159-168,'Q',170-333 <CLA>
A;Cross-references: EMBL:X59553; NID:g15748; PID:g15750
C;Comment: This enzyme catalyzes O-acetylation of the O-antigen of the lipopolysaccharide
                                                                                                                                                                                                                                                                                                                                                         Gene 107, 43-52, 1991
A;Title: The oac gene encoding a lipopolysaccharide O-antigen
A;Reference number: JS0587; MUID:92077435; PMID:1720755
A;Accession: JS0588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              O-antigen acetylase (EC 2.3.1.-) - enterobacterial phage N; Alternate \ names: acetyl transferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: EMBL:X56800; NID:g14867; PIDN:CAA40136.1; R;Clark, C.A.; Beltrame, J.; Manning, P.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Residues: 1-333 <VER>
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Best Local
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27
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                                                                                                                 80.0%;
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                                                                                                                 Score 25;
Pred. No.
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Pred. No.
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2.2e+02;
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E.K.; Peterson, , L.; Utterback,

J.D.; Dodson, T.; Zalewski,

Deinococcus radiodurans R1

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C;Genetics:
A;Gene: modC; chlD
A;Map position: 17 min
C;Function:

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   C;Specie
A;Note:
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A;Molecule type: DNA
A;Residues: 1-352 <BLAT>
A;Cross-references: UNIPROT:P09833;
A;Cross-references: Strain K-12,
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A;Residues: 1-243,'SALRDDR',251-268,'LRYYPHSGFRCFSWFYNRRSKP',269,'FVT',273,'AGKSC'
A;Cross-references: EMBL:X07875
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N;Alternate names: molybdenum transport
C;Species: Escherichia coli
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A;Molecule type: DNA
A;Residues: 1-338 <WHI>
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A; Status: preliminal
A; Molecule type: DN
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C; Superfamily: un
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A;Experimental source: strain R1
molybdenum transport ATP-binding protein ModC STY0816 [imported] -C;Species: Salmonella enterica subsp. enterica serovar Typhi
A;Note: this species has also been called Salmonella typhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
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Pred. No.
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port protein chlD
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                                                                            Salmonella enterica
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A;Reference number: A99629; N
A;Accession: A90728
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-352 <HAY>
A;Cross-references: UNIPROT:(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: DNA
A;Residues: 1-352 <STO>
A;Residues: 10352 <STO>
A;Cross-references: UNIPROT:Q8X4V7; GB:AE005174;
A;Experimental source: strain O157:H7, substrain C;Genetics:
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Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.;
A;Title: Complete genome sequence of a multiple drug resistant
A;Reference number: AB0502; MUID:21534947; PMID:11677608
A;Accession: AB0595
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                                                                                                    R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M. DNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of enterohemorrhagic Escher
                                                                                                                                                                           ATP-binding component of molybdate transport [imported] - Escherichia coli (strain O157:FC;Species: Escherichia coli C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004 C;Accession: A90728
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A90728
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C; Superfamily:
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C;Genetics:
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A; Residues: 1-352 < PAR >
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245 HYAMT 249
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29; MUID:21156231; PMID:11258796
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Pred. No.
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Pred. No. 2.3e+02
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M.; Shinagawa,
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UNIPROT: Q8X4V7;

GB:BA000007;

PIDN:BAB34216.1; PID:g13360252;

GSPDB:GN

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C;Date: 18-041
C;Accession: F91073
C;Accession: F91073
R;Hayashi, T.; Makino, K.; Ohnishi, M.;
R;Hayashi, Y. Yasunaga, T.; Kuhara, S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              membrane-bound lytic transglycosylase B precursor (EC 3.2.1.-) [imported] - Salmonella C;Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi C;Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 18-Nov-2002 C;Accession: AB0844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Experimental source: strain O157:H7, substrain RIMD 0509952 C;Genetics:
A;Gene: ECs0793
C;Superfamily: molybdenum transport protein modC; ATP-binding
                                                                                                                                                                                                                                                                                                       DNA Res. 8, 11-22, 2001

A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7
A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Reference F91073
                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
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C;Keywords:
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A;Molecule type: DNA
A;Residues: 1-359 <PAR>
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Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.;
A;Title: Complete genome sequence of a multiple drug resistant Salmonella enterica serov
A;Reference number: AB0502; MUID:21534947; PMID:11677608
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                                                                                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-361 <HAY>
                                                                                                                                                                                                                                                                                          A;Status: preliminary
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                                                                                                                                                                                                       ;Cross-references: UNIPROT:Q8X872; GB:BA000007; PIDN:BAB36981.1; PID:g13363029; GSPDB:
;Experimental source: strain O157:H7, substrain RIMD 0509952
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Best Local
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Shiba, T.; Hattori, M.; Shinagawa, H.
                                                                                                  2.4e+02;
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A;Cross-references: EMBL:U18785; NID:g642537; PIDN:AAB60060.1; A;Note: the nucleotide sequence was submitted to the EMBL Data C;Genetics:
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FEBS Lett. 366, 115-118, 1995
A;Title: Cloning and controlled overexpression of the gene encoding A;Reference number: S65868; MUID:95309413; PMID:7789526
A;Accession: S65868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N;Alternate names: mltB protein
C;Species: Escherichia coli
C;Species: Escherichia coli
C;Date: 12-Sep-197 #sequence_revision 17-Sep-1997 #text_change 09-Jul-2004
C;Accession: A65050; S65868; S77642
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; Col
A.; Rose, D.J.; Mau, B.; Shao, Y.
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A;Cross-references: UNIPROT:Q8X872; GB:AE005174; NID:g12517141; PIDN:AAG57806.1; GSPDB:GN
A;Experimental source: strain O157:H7, substrain EDL933
C;Genetics:
A;Gene: mltB
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A;Gene: mltB
C;Keywords: glycosidase; hydrolase
F;1-18/Domain: signal sequence #status predicted
F;19-361/Product: mltB protein #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Title: Cloning and expression of a murein hydrolase lipoprotein from Escherichia coli.
A;Reference number: S77642; MUID:96065704; PMID:7476170
A;Accession: S77642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12
A;Reference number: A64720; MUID:97426617; PMID:9278503
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                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-361 < EHL>
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A;Residues: 1-34,'A',36-361 <DIJ>
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A;Experimental source: strain K-12, substrain MG1655
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l. Microbiol. 16, 761-768, 1995
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2.4e+02;
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Potamousis, K.; Ag
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membrane-bound lytic transglycosylase PA4444 [imported] - Pseudomonas aeruginosa (strair C;Species: Eseudomonas aeruginosa
C;Species: Eseudomonas aeruginosa
C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 09-Jul-2004
C;Accession: H83088
C;Accession: H83088
R;Stover, C:K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Bradman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim, Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                                                                               th, T.; Connerton, P.; Cronin, A.; Davis, P.; Davies, R.M.; Dow
, S.; Moule, S.; O'Gaora, P.
Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.;
A;Title: Complete genome sequence of a multiple drug resistant
A;Reference number: AB0502; MUID:21534947; PMID:11677608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  probable membrane protein STY4872 (imported) - Salmonella enterica subsp. enterica Serov (;Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi C;Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 18-Nov-2002 C;Accession: AB1068
R;Parkhill, J.; Dougan, G.; James, K.D.; Thomson, N.R.; Pickard, D.; Wain, J.; Churcher, th, T.; Connerton, P.; Cronin, A.; Davis, P.; Davies, R.M.; Dowd, L.; White, N.; Farrar,
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AB1068
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A;Experimental source: strain PAO1
C;Genetics:
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C;Genetics:
A;Gene: STY4872
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A;Residues: 1-394 <PAR>
A;Cross-references: GB:AL513382; PIDN:CAD03361.1; PID:g16505633; GSPDB:GN00176
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A;Molecule type: DNA
A;Residues: 1-367 <STO>
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A;Reference number: A82950; MUID:20437337; PMID:10984043
A;Accession: H83088
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Best Local Similarity
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Local Similarity 80.0%;
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163 HYALS 167
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Pred. No. 2.6e+02;
1; Mismatches 0;
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is derived by analysis of the total score distribution.
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EMBL; AP004829; BAB95860.1; -.
PIR; E8999; E89999.
HSSP; P96618; 1F7L.
                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by ancentities requires a license agreement (See http://www.isb-cr send an email to license@isb-sib.ch).
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30-MAY-2000 (Rel. 39, Created)
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01-OCT-2004 (Rel. 45, Last annotation update)
Holo-[acyl-carrier-protein] synthase (EC 2.7.8.7) (Holo-ACP (4'-phosphopantetheinyl transferase acps).
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A Holden M.T.G., Foster T.J., Moore C.E., Hurst L., Atkin R., Barron A.,

Bason N., Bentley S.D., Chillingworth C., Chillingworth T.,

Churcher C., Clark L., Corton C., Cronin A., Doggett J., Dowd L.,

A Feltwell T., Hance Z., Harris B., Hauser H., Holroyd S., Jagels K.,

James K.D., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

James K.D., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

A James K.D., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

James K.D., Simmonds M., Stevens K., Whitehead S., Barrell B.G.,

Sharp S., Simmonds M., Stevens K., Whitehead S., Barrell B.G.,

Spratt B.G., Parkhill J.,

Complete genomes of two clinical Staphylococcus aureus strains:

Tevidence for the rapid evolution of virulence and drug resistance.",

Proc. Natl Acad. Sci. U.S.A. 101:9786-9791(2004).
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Fatty acid biosynthesis; Lipid synthesis; Magnesium;
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119 AA;
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BLrel. 27,
BLrel. 27,
C protein
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                                                                                                                                                    100.0%;
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Bacillales; Staphylococcus
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Last annotation update)
synthase (EC 2.7.8.7).
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Magnesium (By similarity).
, OB828A811774B138 CRC64;
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Pred. No. 91;
0; Mismatches
                                                                                                                              Score 28;
Pred. No.
                                                                                                                                                                                                       E2EF3C5A696E7DD2 CRC64;
                                                                                                      Mismatches
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A Enright M.C., Foster T.J., Moore C.E., Hurst L., Atkin R., Barron A.,

Bason N., Bentley S.D., Chillingworth C., Chillingworth T.,

Churcher C., Clark L., Corton C., Cronin A., Doggett J., Dowd L.,

Reltwell T., Hance Z., Harris B., Hauser H., Holroyd S., Jagels K.,

James K.D., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

James K.D., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

James K.D., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

James K.D., Lennard N., Stevens K., Whitehead S., Barrell B.G.,

A Sharp S., Simmonds M., Stevens K., Whitehead S., Barrell B.G.,

A Sharp S., James M., Stevens K., Whitehead S., Barrell B.G.,

A Spratt B.G., Parkhill J.;

Complete genomes of two clinical Staphylococcus aureus strains:

Tevidence for the rapid evolution of virulence and drug resistance.";

Proc. Natl. Acad. Sci. U.S.A. 101:9786-9791(2004).

REMBL; BX571856; CAG41140.1;

REMBL; BX571856; CAG41140.1;

REMBL; BX571876; PRO02582; A-PPT_transf.
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Best Local
Query Match
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058831;
01-AUG-1998
01-AUG-1998
01-JUN-2003
                                                                                                                                                                                Kawarabayasi Y., Sawada M., Horikawa H., Haikawa Y., Hino Y., Yamamoto S., Sekine M., Baba S.-I., Kosugi H., Hosoyama A., Naga Sakai M., Ogura K., Otsuka R., Nakazawa H., Takamiya M., Ohfuku Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguc Aoki K.-I., Yoshizawa T., Nakamura Y., Robb F.T., Horikoshi K., Masuchi Y., Shizuya H., Kikuchi H.;
"Complete sequence and gene organization of the genome of a hype thermophilic archaebatterium, Pyrococcus horikoshii OT3.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR002582; ACPS.
InterPro; IPR004568; Pantethn_trans.
Pfam; PF01648; ACPS; 1.
ProDom; PD004282; ACPS; 1.
TIGRPAM8; TIGR00516; acpS; 1.
TIGRPAM8; TIGR00556; pantethn_trn; 1
                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein PH11: OrderedLocusNames=PH1104;
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STRAIN-MRSA252;
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Holo-[acyl-carrier protein] synthase (EC 2.7.8.7).
Name=acpS; ORFNames=SAR2159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                 DNA Res. 5:55-76(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=98344137; PubMed=9679194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=53953;
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                                                                              Complete
                                                                                                             ; AP000005; BAA30203.1; A71051; A71051.
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                                                    proteome; Hypothetical
143 AA; 16220 MW; 4
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(TrEMBLrel. 07, Last sequence update)
(TrEMBLrel. 24, Last annotation update)
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  100.0%;
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ales; Staphylococcus
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Pred. No.
  Score 28;
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                                                    l protein.
48B66A1605A866E1
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<u>ب</u>
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Length 143;
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Nagai Y.,
''' Y.,
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Best Local S
Matches 5
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01-MAR-2002
01-MAR-2002
01-MAR-2004
                                                                                                                                                                        OSRI70 PRELIMINARY; PRT; 185 AA.
OSRI70;
OSRI7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "The genome bequeen;
Brucella melitenais.";
Proc. Natl. Acad. Sci. U.S.A. 99:443-448(2002)
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MEDLINE=20020109; PubMed=11756688; DOI=10.1073/pnas.221575398;
DelVecchio V.G., Kapatral V., Redkar R.J., Patra G., Mujer C., Los
Ivanova N., Anderson I., Bhattacharyya A., Lykidis A., Reznik G.,
Jablonski L., Larsen N., D'Souza M., Bernal A., Mazur M., Goltsman
Selkov E., Elzer P.H., Hagius S., O'Callaghan D., Letesson J.-J.,
Haselkorn R., Kyrpides N.C., Overbeek R.;
"The genome sequence of the facultative intracellular pathogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PRO0155; AMICYANIN.
PRINTS; PR00156; COPPERBLUE.
PRODOm; PD001235; Copper_blue_sub; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GO; GO:0005507; F:copper ion binding; IEA.
GO; GO:000549; F:electron transporter activity;
GO; GO:0006118; P:electron transport; IEA.
InterPro; IPR002386; Amicyanin.
InterPro; IPR000338; BlueCu I.
InterPro; IPR000338; Copper_blue.
InterPro; IPR011572; Copper_blue.
InterPro; IPR011572; Copper_blue.
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                                                                                              Streptomyces coelicolor.
Bacteria; Actinobacteridae; Actinomycetales;
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Brucella melitensis
                                                      Streptomycineae; Streptomycetaceae; Streptomyces
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HSSP; P04377; 1PAZ.
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STRAIN-A3(2) / M.145;

STRAIN-A3(2) / M.145;

MEDLINE=21996410; PubMed=12000953; DOI=10.1038/417141a;

MEDLINE=21996410; PubMed=12000953; DOI=10.1038/417141a;

Bentley S.D., Chater K.F., Cerdeno-Tarraga A.-M., Challis G.L.,

Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,

Harper D., Bateman A., Brown S., Chandra G., Chen C.W., Collins M.,

Cronin A., Fraser A., Goble A., Hidalgo J., Hornsby T., Howarth S.,

Huang C.-H., Kieser T., Larke L., Murphy L.D., Oliver K., O'Neil S.,

Huang C.-H., Kieser T., Larke L., Murphy L.D., Oliver K., O'Neil S.,

Rabbinowitsch E., Rajandream M.A., Rutherford K.M., Rutter S.,

Seeger K., Saunders D., Sharp S., Squares R., Squares S., Taylor K.,

Warren T., Wietzorrek A., Woodward J.R., Barrell B.G., Parkhill J.,

Hopwood D.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Complete genome sequence of the mesophilic hydrogenotrophic methanogen Methanococcus maripaludis."; Submitted (FEB-2004) to the EMBL/GenBank/DDBJ databases. EMBL; BX957219; CAF29579.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=S2 / LL; Kaul R., Zhou Y., Bovee D., Chapman P., Chun Hendrickson E.L., Kaul R., Zhou Y., Bovee D., Chapman P., Chun Conway de Macario E., Dodsworth J., Gillett W., Graham D.E., Haydock A.K., Kang A., Land M.L., Levy R., Lie T.J., Major T., Major B., Porat I., Overbeek R., Palmeiri A., Rouse G., Soenphimmachak C., Soll D., Whitman W.B., Larimer F.W., Olson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Methanococcus maripaludis.
Archaea; Euryarchaeota; Methanococci;
Methanococcaceae; Methanococcus.
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OrderedLocusNames=MMP0023;
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PROSITE; PS00974; MANNITOL_DHGENASE; UNKNOWN_1.
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EMBL; AL939104; CAB52921.1;
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Pfam; PF01972; DUF114; 1.
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                                                                                                                                                                                                                                                      Henne A., Brueggemann H., Raasch C., Wiezer A., Hartsch T., Liesegang H., Johann A., Lienard T., Gohl O., Martinez-Arias I Jacobi C., Starkuviene V., Schlenzeck S., Dencker S., Huber Klenk H.-P., Kramer W., Merkl R., Gottschalk G., Fritz H.-J.; "The genome sequence of the extreme thermophile Thermus thermophilus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=S2 / LL;
Hendrickson E.L., Kaul R., Zhou Y., Bovee D., Chapman P., Chung J.,
Conway de Macario E., Dodsworth J., Gillett W., Graham D.E.,
Haydock A.K., Kang A., Land M.L., Levy R., Lie T.J., Major T.,
Moore B., Porat I., Overbeek R., Palmeiri A., Rouse G.,
Saenphimmachak C., Soell D., Whitman W.B., Larimer F.W., Olson M.V.,
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                                                                                                                                                               Nat. Biotechnoi. 22:547-553(2004).
EMBL; AE017304; AASB1453.1; -.
GO; GO:0008233; F:peptidase activity;
InterPro; IPR002825; DUF114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Periplasmic serine protease. OrderedLocusNames=TTC1111;
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Submitted (FEB-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BX957219; CAF29579.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thermus thermophilus (strain HB27 / ATCC BAA-163 / DSM 7039).
Bacteria; Deinococcus-Thermus; Deinococci; Thermales; Thermaceae;
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NCBI_TaxID=39152;
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Thermus thermophilus (strain HB27 / ATCC BAA-163 / DSM 7039).
Bacteria; Deinococcus-Thermus; Deinococci; Thermales; Thermac
        Complete
SEQUENCE
                                                                                                                                                                                         Kawarabayasi Y., Sawada M., Horikawa H., Haikawa Y., Hino Y., Yamamoto S., Sekine M., Baba S.-I., Kosuyi H., Hosoyama A., Nay Sakai M., Ogura K., Otsuka R., Nakazawa H., Takamiya M., Offuku Punahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Ogu Aoki K.-I., Yoshizawa T., Nakamura Y., Robb F.T., Horikoshi K., Masuchi Y., Shizuya H., Kikuchi H.; Robb F.T., Horikoshi K., "Complete sequence and gene organization of the genome of a hyputhermophilic archaebacterium, Pyrococcus horikoshii OT3.",
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PubMed=15064768;
                                                       EMBL, AP000001; BAA29354.1;
PIR; C71453; C71453
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Pfam; PF01972; DUF114; 1
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Archaea; Euryarchaeota;
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                                                                                                                                                                     thermophilic archaebacterium, DNA Res. 5:55-76(1998).
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MEDLINE=22511545; PubMed=12622808;

Cohen G.N., Barbe V., Flament D., Galperin M., Heilig R., Lecom Cohen G.N., Barbe V., Flament D., Galperin M., Heilig R., Lecom Poch O., Prieur D., Querellou J., Ripp R., Thierry J.-C., Van der Oost J., Weissenbach J., Zivanovic Y., Forterre P.;

"An integrated analysis of the genome of the hyperthermophilic archaeon Pyrococcus abyssi.";

Mol. Microbiol. 47:1495-1512(2003).

EMBL; AJ248283; CA849180.1; -.

EMBL; B75216, ET5216.

InterPro; IPR002825; DUF114.

Pfam; PF01972; DUF114; 1.
                                                           MEDILINE-21079003; PubMed=11210495;
Robb F.T., Maeder D.L., Brown J.R., DiRuggiero J.,
Yeh R.K., Weiss R.B., Dunn D.M.;
"Genomic sequence of hyperthermophile, Pyrococcus i
implications for physiology and enzymology.";
Meth. Enzymol. 330:134-157(2001).
                                                                                                                                                                                                                                                                                                                                                                01-JUN-2002 (TrEMBLrel. 21, 01-OCT-2002 (TrEMBLrel. 22, Hypothetical protein PF0240 OrderedLocusNames=PF0240;
SEQUENCE FROM N.A.
STRAIN=Vc1 / DSM 3638
                                                                                                                                                                                                        SEQUENCE FROM N.A. STRAIN=DSM 3638;
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NCBI_TaxID=29292;
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"The complete sequence of the Pyrococcus furiosus
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ data
EMBL; AE010149; AAL90364.1; -.
InterPro; IPR002825; DUF114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=99287316; PubMed=10360571; DOI=10.1038/20601;
Melson K.E., Clayton R.A., Gill S.R., Gwinn M.L., Dodson R.J.,
Haft D.H., Hickey E.K., Peterson J.D., Nelson W.C., Ketchum K.A.,
McDonald L.A., Utterback T.R., Malek J.A., Linher K.D., Garrett M.M.,
Stewart A.M., Cotton M.D., Pratt M.S., Phillips C.A., Richardson D.L.,
Heidelberg J.F., Sutton G.G., Fleischmann R.D., Eisen J.A., White O.,
Salzberg S.L., Smith H.O., Venter J.C., Fraser C.M.;
"Evidence for lateral gene transfer between Archaea and Bacteria from
genome sequence of Thermotoga maritima.";
Nature 399:323-329(199).
BMBL; AB001755; AA035997.1; -.
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GO; GO:0008233; F:peptidase activity; IEA.
GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
InterPro; IPR002825; DUF114.
InterPro; IPR002142; Peptidase_S49.
  Hypothetical protein MJO: OrderedLocusNames=MJO137
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protein MJ0137.
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01-AUG-1998
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MEDLINE=96337999; PubMed=8688087;

Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,

Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.A., Gocayne J.D.,

Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I.,

Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,

Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,

Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,

Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.F., Borodoveky M.,

Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.;

"Complete genome sequence of the methanogenic archaeon, Methanococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed. Usage by and for commodified and this statement is not removed. Usage by and for commodified and this statement is not removed.
                            Nature 392:353-358(1998).
EMBL; AE000708; AAC06959.1;
PIR; A70371; A70371.
                                                                                          Deckert G., Warren P.V., Gaasterland T., Young W.G., Lenox A.L., Graham D.E., Overbeek R., Snead M.A., Keller M., Aujay M., Huber Feldman R.A., Short J.M., Olsen G.J., Swanson R.V.; "The complete genome of the hyperthermophilic bacterium Aquifex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (Some send an email to license@isb-sib.ch).
                                                                                                                                                         STRAIN=VF5;
MEDLINE=98196666; PubMed=9537320;
                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                        Bacteria; Aquificae; Aquificales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Science 273:1058-1073(1996).
-!- SIMILARITY: STRONG, TO M.JANNASCHII MJ1495.
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STRAIN=JAL-1 / DSN
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                                                                               aeolicus
                                                                                                                                                                                                                      NCBI_TaxID=63363;
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                InterPro;
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PF01972; DUF114; 1.
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5; Conserv
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                IPR002825; DUF114.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             32166 MW;
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Pred. No. 2.2e+02;
; Mismatches 0;
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YE95 METJA
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DT 01-NOV-1997
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DT 05-NUL-2004
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GN OrderedLocush
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029403;
01-JAN-1998
01-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=98049343; PubMed=9389475; DOI=10.1038/37052; Klenk H.-P., Clayton R.A., Tomb J.-F., White O., Nelson K.E., Ketchum K.A., Dodson R.J., Gwinn M.L., Hickey E.K., Peterson J.D., Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C., FleisChmann R.D., Quackenbush J., Lee N.H., Sutton G.G., Gill S.R., FleisChmann R.D., Quackenbush J., Lee N.H., Sutton G.G., Gill S.R., Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.J., Peterson S.N., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Peterson S.N., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Peterson S.N., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Peterson S.N., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Peterson S.N., Reich C.I., McNeil L.K., Badger J.H., Glodek B.J., Peterson S.N., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Utterback T.R., Cotton M.D., Spriggs T., Artiach P., Kainne B.P., Sykes S.M., Sadow P.W., D'Andrea K.P., Bowman C., Fujii C., Garland S.A., Mason T.M., Olsen G.J., Fraser C.M., Smith H.O., Wocse C.R., Venter J.C.
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PP01972; DUF114; 1.
ProDom; PD002897; Peptidase S49; 1.
Complete proteome; Hypothetical pro
SEQUENCE 291 AA; 32891 MW; 5D2C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIR; H69356; H69356.
TIGR; AF0856; -.
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EMBL; AE001045; AAB90383.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
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NCBI_TaxID=2234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hypothetical protein AF0856. OrderedLocusNames=AF0856;
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     OrderedLocusNames=MJ1495;
                              Hypothetical
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InterPro; IPR002142; Peptidase_S49.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R; AF0856; -.
GO:0008233; P:peptidase activity; IEA
GO:0006508; P:proteolysis and peptido
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288 AA;
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                              (Rel. 35, Created)
(Rel. 35, Last sequence update)
(Rel. 44, Last annotation updat
protein MJ1495.
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32624 MW; 3D862535B32AF730
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Pred. No.
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5D2C2978A80E628C CRC64;
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                                                                                                                                                               292
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AC Q8P883
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Matches 5
SEQUENCE FROM N.A.

STRAIN-ATCC 33913 / NCPPB 528;

MEDLINE-2022145; PubMed=12024217;

MEDLINE-2022145; PubMed=12024217;

da Silva A.C.R., Ferro J.A., Reinach F.C., Farah C.S., Furlan L.R.,

Quaggio R.B., Monteiro-Vitorello C.B., Van Sluys M.A., Almeida N.F.,

Alves L.M.C., do Amaral A.M., Bertolini M.C., Camargo L.B.A.,

Camarotte G., Cannavan F., Cardozo J., Chambergo F., Ciapina L.P.,

Cicarelli R.M.B., Coutinho L.L., Cursino-Santos J.R., El-Dorry H.,

Cicarelli R.M.B., Coutinho L.L., Cursino-Santos J.R., El-Dorry H.,

Faria J.B., Ferreira A.J.S., Ferreira R.C.C., Ferro M.I.T.,

Formighieri E.F., Franco M.C., Greggio C.C., Gruber A.,

Ratsuyama A.M., Kishi L.T., Leite R.P., Lemos E.G.M., Lemos M.V.F.,

Katsuyama A.M., Kishi L.T., Madeira A.M.B.N., Martinez-Rossi N.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8P8B3;
Q8P8B3;
01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-2002 (TrEMBLrel. 22, C: 01-OCT-2002 (TrEMBLrel. 22, L: 01-OCT-2002 (TrEMBLrel. 22, L: Hypothetical protein XCC2330. OrderedLocusNames=XCC2330,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=JAL-1 / DSM 2661 / ATCC 43067;

MEDLINB=96337999; PubMed=8688087;

Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,

Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,

Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.A., Gocayne J.D.,

Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I.,

Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,

Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,

Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,

Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,

Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.,

"Complete genome sequence of the methanogenic archaeon, Methanococcus

lannarchii ".
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xanthomonas campestris (pv. campestris).
Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales;
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                                               Q8YQJ8
Q8YQJ8;
01-MAR-2002
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Q9Y9S6;
01-NOV-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nature 417:459-463(2002).

Nature 417:459-463(2002).

EMBL; AE012341; AAM41608.1; --

Complete proteome; Hypothetical

SHOUENCE 292 AA; 31426 MW; 2
  Alr3825 protein.
OrderedLocusNames=alr3825;
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Pfam; PF01972; DUF114; 1.
Complete proteome; Hypothetical protein.
Complete 295 AA; 32651 MW; 64D00C0EE5C8D439 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haikawa Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., Ku Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H., Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K., Nakamura Y., Nomura N., Sako Y., Kikuchi H.; "Complete genome sequence of an aerobic hyper-thermophilic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-UNV-2003 (TrEMBLrel. 24, Last annotation update)
Hypothetical protein APB2212.
OrderedLocusNames=APE2212,
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2.3e+02;
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Matches 5
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                                                                                                                                                                                                                             Nelson K.E., Fleischmann R.D., DeBoy R.T., Paulsen I.T., Fout Eisen J.A., Daugherty S.C., Dodson R.J., Durkin A.S., Gwinn, Haft D.H., Kolonay J.F., Nelson W.C., Mason T.M., Tallon I., Granger D., Tettelin H., Dong H., Galvin J.L., Duncan M.J., Dewhirst F.E., Fraser C.M., "Complete genome sequence of the oral pathogenic bacterium Porphyromonas gingivalis strain W83."; J. Bacteriol. 185:5591-5601(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=21595285; PubMed=11759840; MEDLINE=21595285; PubMed=11759840; Molk C.P., Wolk C.P., Thirty-may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-MAR-2004 (Rel. 43, Created)
29-MAR-2004 (Rel. 43, Last sequence update)
01-OCT-2004 (Rel. 45, Last annotation update)
Ferrochelatase (EC 4.99.1.1) (Protoheme ferro-lyase)
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EMBL; AP003594; BAB75524.1;
PIR; AB2284; AB2284.
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29-MAR-2004
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GO; GO:0006508; P:proteolysis and peptidolysis;
InterPro; IPR0021825; DUF114.
InterPro; IPR002142; Peptidase S49.
Pfam; PF01972; DUF114; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M., Yasuda M., Tabata S.; Yasuda M., Tabata S.; "Complete genomic sequence of the filamentous nitrogen-fixing cyanobacterium Anabaena sp. strain PCC 7120.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
Watanabe A., Iriguchi M., Ishikawa A., Kawashima K., Kimura T.,
Kishida Y., Kohara M., Matsumoto M., Matsuno A., Muraki A.,
Nakazaki M., Shimpo S., Sugimoto M., Takazawa M., Yamada M.,
                                                                                                                                                               -I- FUNCTION: Catalyzes the ferrous insertion into prot-

-I- CATALYTIC ACTIVITY: Protoporphyrin + Fe(2*) = proto-

-I- PATHWAY: Protoheme biosynthesis; last step.

-I- SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Porphyromonadaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Porphyromonas gingivalis (Bacteroides gingivalis).
Bacteria; Bacteroidetes; Bacteroides (class); Bacteroidales;
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Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
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Pred. No. 2.3e+02;
; Mismatches 0;
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                           noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
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protoheme + 2 H(+).
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S., Gwinn M.L.,
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GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0015299; F:solute:hydrogen antiporter act
GO; GO:0006885; F:regulation of pH; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro; IPRO06153; Na H porter.
Pfam; PF00999; Na H Exchanger; 1.
Transmembrane; Transport.
SEQUENCE 424 AA; 45486 MW; 8E116A82C5825628
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O82871;
O1-NOV-1998
O1-NOV-1998
O1-JUN-2003
                  Q7DC93;
Q7DC93;
05-JUL-2004
05-JUL-2004
05-JUL-2004
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Bacteria; Proteobacteria;
Pseudomonadaceae; Pseudomo
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Complete proteome; Heme blosynthesis; Iron;
Porphyrin blosynthesis.
METAL 199 199 Iron (By simila
METAL 302 302 Iron (By simila
SEQUENCE 345 AA; 39561 MW; 1A4D7EFBB8700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=98322119; PubMed=9655928;
Utsugi J., Inaba K., Kuroda T., Tsuda M.,
"Cloning and sequencing of a novel Na+/H+
Pseudomonas aeruginosa.";
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InterPro; IPR001015; Ferrochelatase.
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AB010827; BAA31695.1; -.
  antiporter
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Iron (By similarity).
; 1A4D7EFBB870012F CRC64;
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Pred. No. 3.4
D; Mismatches
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antiporter g
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(C. STRAIN-ATCC 15692 / PAO1;

(C. STRAIN-A
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01-JUN-2003
01-JUN-2003
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STRAIN-VPI-5482 / ATCC 29148;
MEDLINE=22550858 / PubMed=12663928;
MEDLINE=22550858 / PubMed=12663928;
Xu J., Bjursell M.K., Himrod J., Deng S., Carmichael L.K.,
Chiang H.C., Hooper L.V., Gordon J.I.;
"A genomic view of the human Bacteroides thetaiotaomicron symbiosis.";
Science 299:2074-2076(2003).
Science 299:2074-2076(2003).
EMBL; AE016935; AA077360.1; -.
GO; GO:0005215; F:transporter activity; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro; IPR003423; OEP.
Pfam; PF02321; OEP; 2.
                                                                                                                                                               Complete
SEQUENCE
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01-OCT-2003 (TrEMBLrel.
Putative outer membrane
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Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=818;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacteroidaceae; Bacteroides
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Bacteria; Bacteroidetes; Bact
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170 HYAMS
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45486 MW; 8E116A82C5825628 CRC64;
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Pred. No. 3.6
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RESULT Q6N245

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02-MAR-2004
02-MAR-2004
02-MAR-2004
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Q6N245;
O5-JUL-2004
O5-JUL-2004
O5-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Possible polysaccharide export protein, PST family.
OrderedLocusNames=RPA4205;
Rhodopseudomonas palustris.
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Rhodopseudomonas.
                                                                                                             Larimer F.W., Chain P., Hauser L., Lamerdin J., Malfatti S., Do Land M.L., Pelletter D.A., Beatty J.T., Lang A.S., Tabita F.R., Gibson J.L., Hanson T.E., Bobst C., Torres y Torres J.L., Peres Harrison F.H., Gibson J., Harwood C.S.; "Complete genome sequence of the metabolically versatile photosynthetic bacterium Rhodopseudomonas palustris."; Nat. Biotechnol. 22:55-61 (2004).

EMBL; BX572606; CAB29646.1; -. SEQUENCE 453 AA; 48737 MW; 3FF259A021066193 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nat. Biotechnol. 22:55-61(2004).
Nat. Biotechnol. 22:55-61(2004).
EMBL; BX572606; CAR29646.1; -
InterPro; IPR002797; Polysacc synt.
InterPro; IPR002797; Polysacc synt; 1.
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                                                                                                                                                                                                                                                                                                                         Rhodopseudomonas palustris.
Bacteria; Proteobacteria; A
Bradyrhizobiaceae; Rhodopse
                                                                                                                                                                                                                                                                                                                                                                                02-MAR-2004 (TYENBLrel. 27, Created)
02-MAR-2004 (TYENBLrel 27, Last sequence update)
02-MAR-2004 (TYENBLrel 27, Last annotation update)
02-MAR-2004 (TYENBLREL 27, Last annotation update)
possible polysaccharide export protein, PST family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN-CGA009 / ATCC BAA-98;
PubMed=14704707; DOI=10.11038/nbt923;
                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=CGA009 / ATCC BAA-98;
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296 HYAMS 300
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5; Conserv
                          1 HYAMS 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYAMS 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          453 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation updat
                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                          cteria; Alphaproteobacteria; Rhizobiales;
Rhodopseudomonas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      48737 MW;
                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 28; DI
100.0%; Pred. No. 3.1
tive 0; Mismatches
                                                         0
                                                       Score 28; DE
Pred. No. 3.6
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             453
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                                                       . 3.6e+02;
ches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3.6e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 453;
                                                                                   Length 453;
                                                         Indels
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                                                                                                                                                                                                                                  Do L.,
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Q89UC7
ID Q89UC
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Best Local S
Matches 5
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01-JUN-2003
01-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q89UC7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-FBB-1996 (Rel. 33, Created)
05-UTL-2004 (Rel. 44, Last sequence update)
05-UTL-2004 (Rel. 44, Last annotation update)
NADH-ubiquinone oxidoreductase chain 5 (EC 1.6.5.3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=22484998; PubMed=12597275;
Kaneko T., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,
Sasamoto S., Watanabe A., Idesawa K., Iriguchi M., Kawashima K.
Kohara M., Matsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamad
                                                            CANPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bradyrhizobium japonicum USDA110.";
DNA Res. 9:189-197(2002).
EMBL; AP005940; BAC46755.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bradyrhizobium japonicum.
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bll1490 protein.
                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=SR23 / CBS 7157;
                                                                                                                                                                                                                                                                                                          Nosek J., Fukunara n.;
"NADH dehydrogenase subunit genes
                                                                                                                                                                                                                                                                                                                                                                  STRAIN=SR23 / CBS 7157;
MEDLINE=94364940; PubMed=7521869;
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. STRAIN=SR23 / CBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saccharomycetales; mitosporic NCBI_TaxID=5480;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Fungi; Ascomycota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Candida parapsilosis Mitochondrion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dehydrogenase subunit 5)
Name=ND5; Synonyms=NAD5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P48919;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=375;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2003
                      -!- SIMILARITY: Belongs to the complex
                                                                                                                                                 "Complete DNA sequence of the linear mitochondrial
                                                                                                                                                                     Tomaska L.;
                                                                                                                                                                                          Nosek J., Novotna M.,
                                                                                                                                                                                                                                                                                                     уеавсв.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Complete genomic sequence of nitrogen-fixing symbiotic bacterium
                                                                                                                                                                                                                                                                               Bacteriol.
                             309 HYAMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            l Similarity
5; Conserv
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Gremblrel.
Gremblrel.
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                                                                                                                                                                                                                                                                                 176:5622-5630(1994).
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                                                                                                                                                                                            Hlavatovicova Z.,
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Last sequence update)
Last annotation update)
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Pred. No. 3.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Saccharomycotina; Saccharomycetes; Saccharomycetales; Candida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      733DFC702255DD3E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                          in
                                                                                                                                                                                                                                                                                                                          the mitochondrial DNA
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                                                                                                                                                    genome
                                                                   mitochondrial
                                                                                                                                                                                              Fajkus J.,
                                                                                         [quinol
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Best Local Similarity
Matches 5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR010934; NADH5 C.
InterPro; IPR003945; NADHD oxred5.
InterPro; IPR003916; NADHDboxred5.
InterPro; IPR003916; NADHDboxred q1.
InterPro; IPR001516; Oxidored q1.
InterPro; IPR001516; Oxidored q1.
InterPro; IPR001516; Oxidored q1.
InterPro; IPR001516; Oxidored q1.
InterPro; IPR00161; Oxidored q1.
InterPro; IPR00162; Oxidored q1.
InterPro; IPR00163; Oxid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YEAST
COD2 YEAST
P53959;
                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT 1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
05-JUL-2004 (Rel. 44, Last annotation update)
COD2 protein (Complexed with DOR1 protein 2).
Name=COD2; Synonyms=TF12; OrderedLocusNames=YNL041C; ORFNames=N2675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Whyte J.R., Munro S.;
"The Sec34/35 Golgi transport complex is related to
defining a family of complexes involved in multiple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.

Duesterhoeft A., Floeth M.,

Moestl D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                      EMBL; Z71317; CAA95908.1; PIR; S62963; S62963.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=21563418; PubMed=11703943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LINDANS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomycetales;
NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mitochondrion;
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                                                                                                                                                                                                                                                                                                                                                        . Cell 1:527-537(2001).
SUBUNIT: Component of the Sec34/Sec35 complex which consists eight different proteins.
SIMILARITY: Belongs to the COG6 family.
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                                  143048;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oxidoreductase; Ubiquinone. 62517 MW; 60423C2CEE556ACD CRC64;
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Pred. No. 4.4
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          839
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steps of me
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RESULT 33 S24B HUMAN ID S24B H AC 0954B7 DT 16-OCT DT 16-OCT DT 05-JUL

STANDARD;

PRT;

1268

A A

-S248 HUMAN 095487; 16-OCT-2001 16-OCT-2001 05-JUL-2004

(Rel. 40, Created)
(Rel. 40, Last sequence update)
(Rel. 44, Last annotation update)

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RESULT 32
Q6CHS4
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                                                                                                                         Matches
                                                                                                                                                      Query Match
Best Local (
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                                                                                                                                                                                                                    Genoscope;
submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; CR382127; CAG83712.1; -.
EEQUENCE 1012 AA; 113158 MW; E12C7D1BF427807C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dujon B., Sharman D., Fischer G., Durrens P., Casaregola S.,
Lafontaine I., de Montigny J., Marck C., Neuveglise C., Talla E.,
Goffard N., Frangeul L., Aigle M., Anthouard V., Babour A., Barbe V.,
Barnay S., Blanchin S., Beckerich J.M., Beyne E., Bleykasten C.,
Boisrame A., Boyer J., Cattolico L., Confanioleri F., de Daruvar A.,
Bespons L., Fabre E., Fairhead C., Ferry-Dumazet H., Groppi A.,
Hantraye F., Hennequin C., Jauniaux N., Joyet P., Kachouri R.,
Kerrest A., Koszul R., Lemaire M., Lesur I., Ma L., Muller H.,
Kerrest A., Koszul R., Lemaire M., Desur S., Buleau A.,
Pellenz S., Potier S., Richard G.F., Straub M.L., Suleau A.,
Pellenz S., Potier S., Richard G.F., Straub M.L., Suleau A.,
Swennene D., Tekaia F., Wesolowski-Louvel M., Westhof E., Wirth B.,
Zeniou-Meyer M., Zivanovic I., Bolotin-Fukuhara M., Thierry A.,
Bouchier C., Caudron B., Scarpelli C., Gaillardin C., Weissenbach J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORFNames=YALIOA05533g;
Yarrowia lipolytica (Candida lipolytica).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2004 (TrEMBLrel. 28, Created)
01-OCT-2004 (TrEMBLrel. 28, Last sequence update)
01-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Chromosome A of strain CLIB99 of Yarrowia lipolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF06419; COG6; 1.
Golgi stack; Membrane; Protein transport; Transport.
SEQUENCE 839 AA; 96975 MW; 6484A40F999AD787 CRC6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q6CHS4;
01-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GG; GO:0017119; C:Golgi transport complex; IP
GO; GO:0006891; P:intra-Golgi transport; IGI.
InterPro; IPR010490; CCG6.
Pfam; PF06419; CCG6; 1
                                                                                                                                                                                                                                                                                                                                                                              STRAIN=CLIB99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bouchier C., Caudron B., Wincker P., Souciet J.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENOLEVURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=CLIB99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Saccharomycetales; Dipodascaceae; Yarrowia.
NCBI_TaxID=4952;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q6CHS4
                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nature 430:35-44(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Genome evolution in yeasts.";
36 HYAMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           78
                                                                                                                  l Similarity
5; Conserv
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5; Conserv
                                                          1 HYAMS 5
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                                                                                                                            Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                      100.0%; Score 28; DB 2; 100.0%; Pred. No. 8.2e+02;
                                                                                                                            <u>.</u>
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Pred. No. 6.8e+02
                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                     E12C7D1BF427807C CRC64;
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                                                                                                                                                                                   Length 1012;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
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protein Sec24B (SEC24-related protein B)

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RESULT 34
Q9VLT1
ID Q9VLT
AC Q9VLT
DT 01-MA
DT 01-OC
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Best Local
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-i- FUNCTION: Component of the COPII coat, that covers ER-derived vestcles involved in transport from the endoplasmic reticulum to the Golgi apparatus. COPII acts in the cytoplasm to promote the transport of secretory, plasma membrane, and vacuolar proteins from the endoplasmic reticulum to the Golgi complex.

-i- SUBUNIT: COPII is composed of at least five proteins: the Sec23/24 complex, the Sec13/31 complex and Sarl. Sec24B is capable of forming heterodimers with Sec24A.

-i- SUBCELIULAR LOCATION: Cytoplasmic and perinuclear.

-i- TISSUE SPECIFICITY: Expressed in fibroblasts, hepatocytes, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazc
Mammalia; Eutheri
NCBI_TaxID=9606;
Q9VLT1 PRELIMINARY;
Q9VLT1; Q9VLT2;
01-MAY-2000 (TrEMBLrel. 13,
01-OCT-2002 (TrEMBLrel. 22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR007123; Gelsoln.
InterPro; IPR006900; Sec23_helical.
InterPro; IPR006996; Sec23_trunk.
InterPro; IPR006995; zf-Sec23_Sec24.
InterPro; IPR006995; zf-Sec23_Sec24.
InterPro; IPR006995; zf-Sec23_Sec24.
InterPro; IPR006995; zf-Sec23_helical; 1.
Interpro; IPR00695; Gelsolin; 1.
Interpro; IPR00695; Sec23_helical; 1.
Interpro; IPR00695; Sec23_helical; 1.
Interpro; IPR00695; Sec23_helical; 1.
Interpro; IPR00695; Sec23_Sec24; 1.
Interpro; IPR00695; Sec23_Sec24; 1.
Interpro; IPR00695; Sec23_Sec24; 1.
Interpro; IPR006996; Sec23_Sec24; 1.
Interpro; IPR006990; IPR006990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MIM; 607184; -.
GO; GO:0030118; C:COPII-coated vesicle; TAS.
GO; GO:0016020; C:membrane; TAS.
GO; GO:0005215; F:transporter activity; TAS.
GO; GO:0016192; P:vesicle-mediated transport; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entre the European Bioinformatics Institute. There are no restuse by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IntAct; 095487; -.
Genew; HGNC:10704; SEC24B.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=99175155; PubMed=10075675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Sec24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lymphocytes.
SIMILARITY: Belongs to the SEC23/SEC24 family. SEC24 subfamily.
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                                                                                                                                                                                                              182 HYAMS 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in transport; Transport.
N 605 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     proteins and sorting at the endoplasmic reticulum.";
                                                                                                                                                                                                                                                               1 HYAMS 5
                                                                                                                                                                                                                                                                                                                Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                       379
1268
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                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                          ΑA;
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Primates;
                                                                                                                                                                                                                                                                                                                                              100.0%; Score 28; DB 1; Length 1268; 100.0%; Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                          137788
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Created)
Last sequ
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                                                                                                                                                                                                                                                                                                                     Mismatches
sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                          7FCA4907CBB32FF9 CRC64;
                                                                              1675
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RX MEDLINES 2019606; PubMed=10731132;
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Holt R.M., Hoskins R.A., Galle R.F.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chan L.X.,
RA Hraidon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Gabor G.L.,
RA Marii J.F., Agbayani A., An H.J., Andrews-Pfannkoch C., Baldwin D.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroğlu L., Beasley E.M.,
RA Bellew R.M., Basu A., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Caddeu B., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davises P.,
RA Bablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA Chery J.M., Cawley S., Dahlke C., Davenport L.B., Davises P.,
RA Dodson K., Doup L.S., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.S., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Harris N.L., Harvey D., Helman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.H., Libeyam C.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.H., Libeyam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Reinert K., Remington K., Saunders R.D., Scheeler F., Shen H.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Shur B.C., Stapleton M., Weisenbach J.,
RA Shue B.C., Stapleton M., Zhou X., Zhou S., Yao Q.A., Ye J.,
RA Yelk R.F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA S
                                                                                                                                                                                                                                                          Celniker S.E., Wheeler D.A., Kronmiller B., Carlson J.W., Halpern A Patel S., Adams M., Champe M., Dugan S.P., Frise E., Hodgson A., George R.A., Hoskins R.A., Laverty T., Muzny D.M., Nelson C.R., Pacleb J.M., Park S., Pfeiffer B.D., Richards S., Sodergren E.J., Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.G., Venter Weinstock G., Scherer S.E., Myers E.W., Gibbs R.A., Rubin G.M., "Finishing a whole-genome shotgun: release 3 of the Drosophila melanogaster euchtomatic genome sequence.";
Genome Biol. 3:RESEARCH0079-RESEARCH0079 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                        Kaminker J.S., Bergman C.M., Kronmiller Patel S., Frise E., Wheeler D.A., Lewis Ashburner M., Celniker S.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2004 (TrEMBLrel. CG31756-PA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=22426065; PubMed=12537568;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORFNames=CG31756;
                    SEQUENCE FROM N.A.
                                                                                                                                                                                               MEDLINE=22426070; PubMed=12537573;
                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                        "The transposable elements of the Drosophila melanogaster euchromatin
                                                             Biol.
                                                               perspective.";
1. 3:RESEARCH0084-RESEARCH0084(2002)
  PubMed=12537572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26,
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                                                                                                                                                   B., Ca
                                                                                                                                                                                                                                                                                                                                                                                              Carlson J.W., Halpern A., Frise E., Hodgson A., V D.M., Nelson C.R.,
                                                                                                                                                                        Carlson
                                                                                                                                                      Rubin
                                                                                                                                                      G.M. S
                                                                                                                                                                          Svirskas
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Q86DB JD Q86DB AC Q86DB AC Q86DB AC Q86DB DT 01-JU DT 01-OC DE KAR COC Stoli COX NCBI_
CX NCB
RESULT 36
Q6TFA8
ID Q6TFA
AC Q6TFA
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Q6TFA8;
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MEDLINB-22586101; PubMed=12701103;

MEDLINB-22586101; PubMed=12701103;

Oda-Ishii I., Saiga H.;

"Genomic organization and promoter and transcription regulatory
regions for the expression in the anterior brain (sensory vesicle) of
Hroth, the otx homologue of the ascidian, Halocynthia roretzi.";

Dev. Dyn. 227:104-113(2003).

EMBL; AB104851; BAC76068.1; -.
EMGO; GO:0005534; C:nucleus; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q86DB6 PRELIMINARY;
Q86DB6;
Q1-JUN-2003 (TrEMBLrel. 24,
01-JUN-2003 (TrEMBLrel. 24,
01-OCT-2003 (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Intact; Q9VLT1; ...
FlyBase; FBgn0031985; CG8683.
InterPro; IPR008938; ARM.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Halocynthia roretzi (Sea squirt).
Eukaryota, Metazoa, Chordata, Urochordata, Ascidiacea,
Stolidobranchia, Pyuridae, Halocynthia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (MAR-2004) to the EMBL; AE003620; AAF52603.3;
                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Name=Hroth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FLYBASE;
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                                                                                                                                                                                                                                                                                                                                                                    Nuclear protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=7729;
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les 4; Conserv
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                           PRELIMINARY;
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                           PRT;
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Submitted (SEP-2003) to the
EMBL; AY422732; AARO6612.1;
Hypothetical protein.
SEQUENCE 56 AA; 6246 MW;
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02-MAR-2004 (TrEMBLrel.
02-MAR-2004 (TrEMBLrel.
Hypothetical protein.
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Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY422732; AAR06612.1; -.
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Aeromonas hydrophila.
Bacteria, Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20244644; PubMed=10784058;
Zhang Y.L., Ong C.T., Leung K.Y.;
"Molecular analysis of genetic differences between
avirulent strains of Aeromonas hydrophila isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aeromonas hydrophila.
Bacteria; Proteobacteria;
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Zhang Y.L., Ong C.T., Leung K.Y.;
"Molecular analysis of genetic differences between
avirulent strains of Aeromonas hydrophila isolated
fish.":
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fish.":
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SEQUENCE 56 AA; 6246 MW;
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STRAIN=PPD134/91;
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Pred. No. 2.1e
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Pred. No.
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Q1-MAR-2003 (TrEMBLrel. 23, C

Q1-MAR-2003 (TrEMBLrel. 23, L

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NADH denydrogenase subunit 4L
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QBGWLB;
QBGWLB;
Q1-MAR-2003 (TrEMBLrel. 23, Created)
Q1-MAR-2003 (TrEMBLrel. 23, Last sequence update)
Q1-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Q1-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Hypothetical protein At5947830/MCA23_17.
Name-At5947830/MCA23_17;
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosidieurosids II; Brassicales; Brassicaceae; Arabidopsis.
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Seki M., Iida K., Satou M., Sakurai T., Akiyama K., Ishida Seki M., Iidu A., Kamiya A., Narusaka M., Carninci P., Nakajima M., Enju A., Kamiya A., Narusaka M., Carninci P., Hayashizaki Y., Shinozaki K.; Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.

EMBL, AKI18767; BAC43360.1; -.

Hypothetical protein.

SEQUENCE 60 AA; 6671 MW; 6D4ECA745A15FEF7 CRC64;
                                                                                                                                                                                                      "Major patterns of higher teleostean phylogenies: a new perspective based on 100 complete mitochondrial DNA sequences.";

Mol. Phylogenet. Evol. 26:121-138 (2003).

EMBL; AP004417; BAC23341.1; -.

GO; GO:0005739; C:mitochondrion; IEA.

GO; GO:0008137; F:NADH dehydrogenase (ubiquinone) activity; IEA.

GO; GO:0008137; C:NADH dehyd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE=22359432; PubMed=12470944;
Miya M., Takeshima H., Endo H., Ishiguro N.B., Inoue
Miya M., Takeshima H., Kawaguchi A., Mabuchi K., S
                                                                                                                                                   Mitochondrion.
SEQUENCE 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Satoh T.P.,
Nishida M.;
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Score 25; DB 2; Louis Pred. No. 3.7e+02; 1; Mismatches 0;
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                                                                                                                                                                                                                                                                              Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Dong W., Chen Y., Xue Y., Xu Y., Lai X., Huang L., Dong X., Ma Yann H., Chen R., Wanng J., Yu J., Yang H., "A complete sequence of the T. tengcongensis genome."; Genome Res. 12:689-700(2002).

EMBL; AE013057; AAM24168.1; Complete proteome; Hypothetical protein.

Complete proteome; Hypothetical protein.
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01-JUN-2002
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Bacteria, Firmicutes; Clostridia, Thermoanaerobacteriales;
Thermoanaerobacteriaceae; Thermoanaerobacter.
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STRAIN=MB4;
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118.029 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	₅	4.	w	2	-	Result No.
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Adg96722 Single ch	Abp45895 Human BLy	Abp46028 Human BLy	Adc27437 TMEFF2#10	Adg25805 Anti-CD30	Adj95626 Rat insul	Adj95639 Insulin-l	Ξ.	Aar41233 Monoclona	Aaw11917 Murine MA	Aaw11919 Humanised	Aab81991 Gangliosi	Aab81987 Gangliosi	Abull002 Modified	Aab81977 Gangliosi	Aab01627 Murine im	Aay28369 pKM641 HA	Aar53341 KM641 L c	Aar33256 Rat immun	Abull010 Modified	Abull012 Modified	Aab81989 Gangliosi	ທ	Abull005 Modified	0	Description

Query Match
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Matches 17; Conserv

100.0%; Score 89; DB 4; ilarity 100.0%; Pred. No. 4.1e-06; Conservative 0; Mismatches 0;

Length 17; Indels

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Sequence 17 AA;

The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention

New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.

WPI; 2001-266143/27.

Claim 5; Page 141; 183pp; Japanese.

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06-APR-2000; 2000JP-00105088.
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Matches 17
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                                                 Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                         Ganglioside GD3 specific antibody related protein SEQ ID NO:
                                                                                                                                                                      03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                                                                                                                                                                                                                                                                       Ganglioside GD3 specific antibody related protein SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
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06-APR-2000; 2000JP-00105088.
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                                    WPI; 2001-266143/27.
                                                           Hanai N,
                                                                                     (KYOW ) KYOWA HAKKO KOGYO KK.
                                                                                                             30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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                                                           Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page 142-143;
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                                                                                                                                                                                                                                                                                                                                                                protein; 119
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                                                                                                                                                                                                                                                               determining region; CDR; antibody;
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New human type complementation-determining region-transplanted ar and derivatives against ganglioside GD3, useful in diagnosis and

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                                                                                                                                                                                                                 The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
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                                                                                                                                                                         Sequence 119
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YISSGGSGTYYSDSVKG
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                                                                         100.0%;
ilarity 100.0%;
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12-JUL-1993
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                                                                                      humanised; chimeric; antibody; expression vector
                                                                                                                    Promoter; variable; region; rat; immunoglobulin; heavy; H; chain;
                                                                                                                                                                      Rat immunoglobulin H chain varible region of pKM641HA3
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                                                                                                                                                                                                                               (revised)
(first en
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                                                                                                                                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                               entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 89; DB b; ... Pred. No. 3.3e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ģ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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RESULT 8
AAR53341
IID AAR53
XX AAR5
AC AAR5
XX XAR64
AC AAR5
XX WONG
AC CONS
XX MOS
XX MOS
XX CONS
XX CONS
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Best Local S
Matches 17
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Peptide
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                                            07-SEP-1992;
                                                                                       07-SEP-1993;
                                                                                                                                      17-MAR-1994.
                                                                                                                                                                                 AU9346181-A
                                                                                                                                                                                                                                                                                                                     Mus musculus.
                                                                                                                                                                                                                                                                                                                                                         Monoclonal antibody; Ab; ganglioside GM2; chimera; chimeric antibody; expression vector; heavy; light; chain; hypervariable region; CDR; constant region; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        KM641 L chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR53341 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression vectors. In these humanised antibodies none of the amino acids of the nor chuman animal ab variable region have been changed. (Updated on 25-MAR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 6; Page 29-30; 63pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cancers,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Humanised chimeric antibody prodn. against ganglioside GD3 -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-SEP-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-SEP-1992;
                                                                                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The sequences given in AAR33256-57
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(KYOW ) KYOWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1993-095510/12.
DB; AAQ33257.
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17; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                such as melanoma, neuroblastoma, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YISSGGSGTYYSDSVKG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; ilarity 100.0%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
HAKKO KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 91JP-00238375
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                                            92JP-00238452
                                                                                         93AU-00046181
                                                                                                                                                                                                                            /label=
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11. .130
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                                                                                                                                                                                                                                                                      Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein; 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KOGYO CO LTD.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Mature protein"
                                                                                                                                                                                                                         sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17
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Pred. No. 3.6
); Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         represent rat heavy and light chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Miyaji H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.6e-05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 130;
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RESULT 9
AXY28369
ID AAY2
XX AAY2
XX AAY2
XX AAY2
XX AAY2
XX AAY2
XX AAY1
DT 04-N
XX AAY1
CX M18
XX AAY1
PF 07-1
XX AAY2
XX AAY2
PF 07-2
XX AAY2
PF 07-2
XX AAY2
PF 07-2
XX AAY2
PF 07-1
XX AAY2
XX AAY2
PF 07-1
XX AAY2
XX AA
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 2 describes the construction of the vector pChi641HA1 for chimeric human antibody H chain expression. mRNA from mouse anti-GD3 monoclonal Ab KW641-producing cells was isolated and KW641 H and L chain cDNAs isolated. The base sequences of the 1g variable regions in KW641 H chain cDNA (pKW641HA3) and KW641 L chain cDNA (pKW641LA2) are given in AAQ45438-39. A KW641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKW641HA3 to a vector for chimeric human Ab H chain expression using the synthetic DNAs given in AAQ63439 and AAQ63440
                  This immunoglobulin region was isolated from pKW641HA3. This sequence has no methionine initiation codon and the leader sequence was partly lacking. The chimeric human antibodies are useful in the treatment of cancer, especially that which is of neural ectodermal origin. In contrast to prior art constructs based on mouse monoclonal antibodies, the chimeric human antibodies do not cause anti-mouse immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Humanised
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nakamura K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ds snw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pKM641 HA3 immunoglobulin heavy chain.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY28369;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY28369 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 2; Page 116-117; 191pp; English.
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                                                                                                                                                                                                 Example 1; Col 99-101; 188pp; English.
                                                                                                                                                                                                                                                  Chimeric human antibody
                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                           Nakamura K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-SEP-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                            (KYOW ) KYOWA HAKKO KOGYO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             light chain; amino acid
                                                                                                                                                                                                                                                                                                1999-468416/39.
DB; AAX99482.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nucleotide; genomic; hypervariable region;
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                                                                                                                                                                                                                                                                                                                                                                           Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93US-00116778
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
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                                                                                                                                                                                                                                                                                                                                                                           Kuwana
                                                                                                                                                                                                                                                  expression
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Pred. No. 3.6e-05;
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                                                                                                                                                                                                                                                                                                                                                                           Hasegawa
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                                                                                                                                                                                                                                                                                                                                                                              Koike
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                                                                                                                                                                                                                                                                                                                                                                                Shitara
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and glioma.
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RESULT 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                  The present sequence is a murine immunoglobulin heavy chain variable region from plasmid KM-641. The coding sequence was used in the creation of an expression vector, along with the sequence for a human antibody, to produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side effects, such as the formation of anti-mouse immunoglobulin antibody and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a reduced frequency antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with ganglioside and human antibody constant region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB01627 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 130 AA;
                                                                                                                                                   Sequence 130 AA,
                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 14; Page 27-28; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-1991;
18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EP1013761-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mouse; immunoglobulin; H chain; heavy chain; variable region; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Murine immunoglobulin heavy chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB01627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-402204/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (KYOW ) KYOWA HAKKO KOGYO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     humanised antibody.
                                            / Match 100.0%;
Local Similarity 100.0%;
les 17; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                rapid half-life of the immunoglobuling,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 YISSGGSGTYYSDSVKG 17
YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YISSGGSGTYYSDSVKG 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91JP-00238375.
92EP-00116026.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99EP-00124345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11. .130
/label= mature_immunoglobulin_heavy_chain_variable region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label=_signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hasegawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        adverse effects when compared to mouse monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                130
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                                            Score 89; DB
Pred. No. 3.6
0; Mismatches
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Pred. No. 3.6
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Miyaji H,
                                               3.6e-05;
hes 0;
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3.6e-05;
                                                                                              DB 3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
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                                                                                              Length 130;
                                                 Indels
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                                               Gaps
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RESULT 12
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ID ABU11
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Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                 Mus musculus.
                                                                                                                                                      Ganglioside GD3; anti-ganglioside GD3 antibody; tumour; melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 138 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ganglioside
                                                                                                                                                                                                                                Modified ganglioside GD3
                                                                                                                                                                                                                                                                                                             04-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                              ABU11002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABU11002 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-266143/27.
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06-APR-2000; 2000JP-00105088.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 1; Page 138-139; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-SEP-2000; 2000WO-JP006774.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YISSGGSGTYYSDSVKG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GD3 specific antibody related protein SEQ ID
                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein; 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
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                                                                                                                                                                                                                                        antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 89;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ۲
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                                                                                                                                                                                                                                        associated protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 3.9e-05;
ches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 138;
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WO200278739-A1

10-OCT-2002

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RESULT 13
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XX GANG1
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
                                                                                                                                                                                                                                                                                                                                 Ganglioside;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 3; Page 97; 121pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-MAR-2002; 2002WO-JP003170
                                                                                                                                                          30-SEP-1999;
06-APR-2000;
                                                                                                                                                                                                                               05-APR-2001
                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                                                                                                                            Ganglioside GD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 138 AA;
                                                                     WPI; 2001-266143/27.
                                                                                                                                                                                                   29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                                                                                           WO200123432-A1
                                                                                                                                                                                                                                                                                                                                                                                       03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB81987 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (куом ) куома накко
                                                                                                                             (КҮОМ ) КҮОМА НАККО КОСТО
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                                                                                                  Shitara
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; ilarity 100.0%; Conservative 0
                                                                                                                                                          99JP-00278291.
2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                 GD3;
                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                          specific antibody related protein SEQ ID NO: 53.
                                                                                                ζ,
                                                                                                                                                                                                                                                                                                                              complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                              protein;
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                                                                                                  Nakamura
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Pred. No.
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                          and therapy
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Best Local S
Matches 17
                                                                                                                   Query Match
Best Local 9
                                                                                               Matches
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                                                                                                                                                                                                                                    The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 41; Page 168-172; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therap of e.g. tumors, with low antigenicity, little side effects but potent
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                                                                                                                                                                                            Sequence 582 AA;
                                                                                                                                                                                                                                                                                                                                                                                      Claim 39; Page 175-179; 183pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                      activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-266143/27.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-SEP-1999; 99JP-00278291
06-APR-2000; 2000JP-00105088
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  YISSGSSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                               Conservative
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Pred. No.
                                                                                                                      Score 89;
Pred. No.
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                                                                                               Mismatches
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                                                                                                                        0.00018;
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                                                                                                                                            Length 582;
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RESULT 15
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Chimeric.
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                     The heavy chain variable region (AAW11919) and light chain variable region (AAW11920) of humanised anti-human interleukin-1 beta (IL-1 beta) murine monoclonal antibody (MAb) SK48-Z56 comprise the complementarity determining regions from MAb SK48-E26 (see also AAW11917-18) grafted int
                                                                                                                           Claim 39; Page
                                                                                                                                                                       disorders
                                                                                                                                                                                      Recombinant and humanised c
                                                                                                                                                                                                                                                     WPI; 1995-066868/09.
N-PSDB; AAT51438.
                                                                                                                                                                                                                                                                                                                  Young
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04-MAR-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-OCT-2003
24-JUN-1997
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                                                                                                                                                                                                                                                                                                                                                         (SMIK ) SMITHKLINE BEECHAM CORP
                                                                                                                                                                                                                                                                                                              PR,
    frameworks.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          antibody; antil
inflammation;
                                                                                                                                                                                                                                                                                                                Gross MS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (revised)
(first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                93US-00090534.
94US-00206190.
                                                                                                                       40-41; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               94WO-US007659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label= CDR3
/note= "complementarity determining region 3 (Claim 10,
page 48)"
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/note= "complementarity determining region 2 (Claim 10, page 48)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "complementarity determining region 1 (Claim 10, page 4.8)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= FR2
/note= "framework
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    The
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; IL-1 beta; recombinant antibody; humanised antibody; antibody engineering; monoclonal antibody; MAb;
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    humanised
                                                                                                                                                                                                                                                                                                                Jonak ZL,
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                                                                                                                                                                                    chimeric antibodies against human interleukin-1 treating interleukin-mediated inflammatory
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    antibody can be
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AAW11917-18) grafted produced in e.g. COS
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                     chimeric a
SK48-E26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cells transfected with vectors carrying humanised heavy and light chain nucleic acids (AAT51437-39) for use in the treatment and prevention of IL -1 mediated inflammatory disorders. (Updated on 16-OCT-2003 to standardise OS field)
                           09-JUL-1993;
04-MAR-1994;
                                                                                                             Region
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                                                    07-JUL-1994;
                                                                     19-JAN-1995
                                                                                                                                       Region
                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                    Interleukin-1 beta; IL-1 beta; recombinant antibody; humanised antibody;
chimeric antibody; antibody engineering; monoclonal antibody; MAb;
SK48-E26; inflammation; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                       Murine MAb
                                                                                                                                                                                                                                                                                                                                                                                                                                        24-JUN-1997
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                                                                                     WO9501997-A1
                                                                                                                                                                                                                                                                                                                                         Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YISSGGGTYYPDTVKG
                                                                                                                                                                                                                                                                                                                                                                                                                       SK48-E26 heavy chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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                          93US-00090534.
94US-00206190.
                                                    94WO-US007659
                                                                                                                                                                                                                                                                      page
                                                                                                      139. .247
/label= Co
                                                                                                                                               /label= CDR3
/note= "complementarity determining region 3 (Claim 10,
page 48)
                                                                                                                                                                                                         /note= "complementarity determining region 2
page 48)"
                                                                                                                     /label= FR4
/note= "framework region
                                                                                                                                                                                                                                             note= "framework
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page 48)"
                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                 'label= FR3
'note= "framework
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(SMIK) SMITHKLINE BEECHAM CORP

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RESULT 17
AAR41233
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AC AAR41
XX AAR41
DT 25-MA
DT 18-MA
XX MONOC
XX MONOC
XX MONOC
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YX 25-FE
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Amino acid sequences of the heavy chain (AAWI1917) and light chain (AAWI1918) of anti-human interleukin-leta (IL-1 beta) murine monoclonal antibody (MAb) SK48-E26 were deduced form nucleic acids (AAT51436-37) derived from hybridoma SK48-E26. The heavy and light chains, esp. the complementarity determining region sequences, can be utilised in novel recombinant chimeric and humanised antibodies (see also AAWI1919-20) useful for the treatment and prevention of IL-1 mediated inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Recombinant and humanised chimeric antibodies against human interleukin-1-beta - for preventing and treating interleukin-mediated inflammatory
                          The monoclonal antibody BW2121 can be used for the detection of melanomas and other tumours expressing GD3 and GQ1b. The monoclonal antibody may also be used as part of a pharmaceutical composition or diagnostic kit. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                 Claim
                                                                                                                          Hybridoma 2121 (dsm acc 2036) and monoclonal antibody BW 2121 specifically bind to gangliosides GD3 and GQ1B, useful for pr diagnosis of melanoma or tumours expressing GD3 and GQ1B.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 5; Page 36-37; 62pp; English
                                                                                                                                                                                      N-PSDB;
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                                                                                                                                                                                                                                                                                     19-MAR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Monoclonal
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                                                                                                                                                                                    AAQ48765
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                                                                                                 Page 5; 9pp;
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                                                                                                  German
                                                                                                                                                                                                                            Dippold W;
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0.0041;
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Sequence 118

RESULT 19
ADJ95639
ID ADJ95
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AC ADJ95
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DT 06-MA
XX
DE Insul

ADJ95639 standard;

protein; 118

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Insulin-like 06-MAY-2004 ADJ95639

growth (first

factor

(IGF) -related

protein

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RESULT 18
ADJ95630
ID ADJ95630
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Best Local S
Matches 14
                                                                                                                                                                                                                                                   The invention comprises antibodies and antibody fragments which bind to and inhibit the function of human insulin-like growth factor (IGF-I and/or IGF-II). The antibodies and antibody fragments of the invention are useful for the treatment, prevention, and diagnosis of diabetes, rheumatoid arthritis and cancer. The present amino acid sequence represents a rat insulin-like growth factor-related peptide of the
                                                                                                                                                                                      Sequence 17
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                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 3; SEQ ID NO 6; 115pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Antibodies and antibody fragments recognising factor for treatment and diagnosis of cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (KYOW ) KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-APR-2002; 2002JP-00129046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-APR-2003; 2003WO-JP005505.
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rheumatoid arthritis;
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                                                                                                                  Similarity
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14; Conservative
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YISSGGGSTYYRDSVKG
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                                                                                               Conservative
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RESULT 20
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Matches 14; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 118
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WPI; 2003-854482/79
                                          Shitara K,
                                                                                                                                                                                                                                                                                                                    Rattus norvegicus.
                                                                                                                                                                                                                                                                                                                                                                 rheumatoid
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                                                                                                                                                                                                                                                                                                                                                                 re growth factor; IGF-I; IGF-II; diabetes;
arthritis; cancer; rat.
                                             Nakamura
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Pred. No. 0.00
0; Mismatches
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s of cancer,
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Matches 14
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Kreitman R,
The present invention describes an isolated antibody that binds specifically to a stalk of CD30 of a cell, or to an epitope destroyed upon cleavage of soluble CD30 (sCD30) from intact CD30. Also described: (1) a composition comprising the antibody conjugated or fused to a therapeutic part; (2) a nucleic acid encoding an antibody that binds specifically to a stalk of CD30 of a cell, or to an epitope destroyed upon cleavage of SCD30 from intact CD30; (3) an expression vector comprising the nucleic acid operably linked to a promoter; (4) inhibiting growth of a CD30+ cancer cell; (5) detecting the presence of a CD30+ cein a biological sample; (6) a host cell expressing the isolated nucleic
                                                                                                                                                                                          New antibody that binds specifically to a stalk of CD30 of a cel an epitope destroyed upon cleavage of soluble CD30 (sCD30) from CD30, useful for inhibiting the growth of a CD30+ cancer cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention comprises antibodies and antibody fragments which bind to and inhibit the function of human insulin-like growth factor (IGF-I and/or IGF-II). The antibodies and antibody fragments of the invention are useful for the treatment, prevention, and diagnosis of diabetes, rheumatoid arthritis and cancer. The present amino acid sequence represents a rat insulin-like growth factor-related protein of the
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16-SEP-2002; 2002US-0411032P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antibodies and antibody fragments recognising human insulin-like growth factor for treatment and diagnosis of cancer, diabetes and rheumatoid
                                                                                                                                                               Example 1; SEQ ID NO 5; 102pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antibody;
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                                                                                                                                                                                                                                                                                   Nagata S,
Sinha A;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene therapy; cancer.
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                  inhibiting
CD30+ cell
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Matches 15
pharmaceutical composition comprising the antibody and a carrier; (2) detecting a prostate cancer cell in a biological sample from a patient by contacting the biological sample with the antibody; (3) inhibiting proliferation of a prostate cancer-associated cell by contacting the cell with the antibody; (1) inhibiting proliferation of a prostate cancer-associated cell by contacting the cell with the antibody; (1) has cytostatic activity and can be used in vaccines. The antibody, composition and method are useful for treating prostate cancer, e.g. primary prostate cancer, metastatic prostate cancer, prostate cancer that has been treated with neoadjuvant therapy, or prostate cancer that has been treated with neoadjuvant therapy, or prostate cancer that is refractory to treatment with neoadjuvant therapy.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New antibody that competitively inhibits binding of TMEFF219 to TMEFF2, useful for treating prostate cancer, e.g. primary, metastatic, locally advanced, or androgen independent prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                 The present invention describes an antibody (I) that competitively inhibits binding of TMEFF2#19 to TMEFF2. Also described: (1) a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-MAR-2002; 2002US-0362837P.
27-DEC-2002; 2002US-0436812P.
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cytostatic; vaccine;
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primary prostate cancer; metastatic prostate cancer;
state cancer; androgen independent prostate cancer.
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93.8%;
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                                              This invention describes novel antibodies that immunospecifically bind to B Lymphocyte Stimulator (BLyS) polypeptides. BLyS is a member of the tumour necrosis factor (TNF) super family and induces B cell tumour necrosis factor (TNF) super family and induces B cell proliferation and differentiation. The antibodies of the invention have cytostatic, immunosuppressive, immunostimulant, immunomodulatory, antirheumatic and antiAIDS activity and can be used in vaccines to inhibit the expression and activity of BLyS. The antibodies bind to BLyS and so may be used to detect and quantitate the presence of BLyS in biological samples and may be used in this way to diagnose disease associated with aberrant expression of BLyS. They may also be associated with aberrant expression of BLyS. They may also be and activity such as cancer, immune, and autoimune disorders and cand activity such as cancer, immune, and autoimune disorders and caquired immunodeficiency (e.g. common variable immunodeficiency (CVID) and acquired immunodeficiency syndrome (AIDS). ABP43990-ABP47228 represent
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acquired immunodeficiency syndrome (AIDS)). All the antibodies and fragments of the antibodies the invention
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17-OCT-2000; 2000US-0240816P.
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21-MAR-2001; 2001US-0277379P.
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16-MAR-2001; 2001US-0276248P.
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                 This invention relates to novel antibodies that immunospecifically bind CC to B lymphocyte stimulator (BLyS). The BLyS gene has been mapped to CC chromosome 13q34 and encodes a protein that is a member of the tumour CC necrosis factor superfamily and induces both in vivo and in vitro B cell CC chain antibody molecules (GcFvs) derived, preferably, from the variable CC chain antibody molecules (GcFvs) derived, preferably, from the variable heavy CDR3 region that immunospecifically bind to a polypeptide, or CC fragment thereof, of either human, murine, rat or monkey BLyS. The CC present invention refers to the use of such antibodies in various methods CC for the detection, diagnosis and prognosis of diseases related to the CC such, these compositions are useful for identifying immune disorders Such, these compositions are useful for identifying immune disorders CC including myasthenia gravis and multiple sclerosis, inflammatory CC disorders e.g. asthma and rheumatoid arthritis, infectious diseases such CC lymphoma. Accordingly, they can be described as exhibiting various and CC lymphoma. Accordingly, they can be described as exhibiting various activities such as antihenmatic, antiallergic and cytostatic. This CC invention. NOTE: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format CC directely from WIPO at ftp. wipo.int/pub/published pct_sequences.
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             This invention relates to novel antibodies that immunospecifically bind CC to B lymphocyte stimulator (BLyS). The BLyS gene has been mapped to CC chromosome 13934 and encodes a protein that is a member of the tumour necrosis factor superfamily and induces both in vivo and in vitro B cell proliferation and differentiation. Specifically, it refers to single CC chain antibody molecules (scFvs) derived, preferably, from the variable heavy CDR3 region that immunospecifically bind to a polypeptide, or CC fragment thereof, of either human, murine, rat or monkey BLyS. The CC present invention refers to the use of such antibodies in various methods for the detection, diagnosis and prognosis of diseases related to the CC aberrant expression or inappropriate function of BLyS or its receptor. As such, these compositions are useful for identifying immune disorders including myasthenia gravis and multiple sclerosis, inflammatory CC disorders e.g. asthma and rheumatoid arthritis, infectious diseases such as AIDS and proliferative disorders including leukaemia, carcinoma and CC lymphoma. Accordingly, they can be described as exhibiting various activities such as antirheumatic, antiarthritic, neuroprotective, antiantflammatory, antiasthmatic, antiarthritic, neuroprotective, antianthritic, now that binds BLyS of the CC invention. MOTE: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format CC directely from WIPO at ftp. wipo.int/pub/published pct_sequences.
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RESULT 27
ABP45894

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Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                               This invention describes novel antibodies that immunospecifically bind to B Lymphocyte Stimulator (BLyS) polypeptides. BLyS is a member of the tumour necrosis factor (TNF) super family and induces B cell proliferation and differentiation. The antibodies of the invention have cytostatic, immunosuppressive, immunostimulant, immunomodulatory, antirheumatic and antiAIDS activity and can be used in vaccines to inhibit the expression and activity of BLyS. The antibodies bind to BLyS and so may be used to detect and quantitate the presence of BLyS in biological samples and may be used in this way to diagnose disease associated with aberrant expression of BLyS. They may also be associated with aberrant expression of BLyS. They may also be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antiAIDS; vaccine; cancer; Inmute; accommentatis; CVID; AIDS; systemic lupus erythematosus; rheumatoid arthritis; CVID; AIDS; common variable immunodeficiency; acquired immunodeficiency syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 237 AA;
                                                                                           administered to treat diseases associated with aberrant BLyS expression and activity such as cancer, immune, and autoimmune disorders and diseases, e.g. systemic lupus erythematos, rheumatoid arthritis, immunodeficiency (e.g. common variable immunodeficiency (CVID) and acquired immunodeficiency syndrome (AIDS)). ABP43990-ABP47228 represent the antibodies and fragments of the antibodies described in the method of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-JUN-2000; 2000US-0212210P.
17-CCT-2000; 2000US-0240B1EP.
16-MAR-2001; 2001US-0276248P.
21-MAR-2001; 2001US-0277379P.
25-MAY-2001; 2001US-0293499P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLys; B lymphocyte stimulator; TNF superfamily; human; cytostatic; tumour necrosis factor; B cell proliferation; B cell differentiation; immunosuppressive; immunostimulant; immunomodulatory; antirhoumatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABP45894;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 2674-2675; 3148pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Antibodies against B Lymphocyte Stimulating polypeptides, useful for the diagnosis and treatment of cancers and immune disorders.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HUMA-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cancer; immune; autoimmune disorder; immunodeficiency;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein;
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0.021;
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                                                 cc necrosis factor superfamily and induces both in vivo and in vitro B cell compositions and differentiation. Specifically, it refers to single charmant antibody molecules (scFvs) derived, preferably, from the variable cc chain antibody molecules (scFvs) derived, preferably, from the variable cc chary CDR3 region that immunospecifically bind to a polypeptide, or cf easy CDR3 region that immunospecifically bind to a polypeptide, or cf fragment thereof, of either human, murine, rat or monkey BLyS. The cc gresent invention refers to the use of such antibodies in various methods cf for the detection, diagnosis and prognosis of diseases related to the categories and coulding myasthenia gravis are useful for identifying immune disorders including myasthenia gravis and multiple sclerosis, inflammatory compositions are useful for identifying immune disorders including myasthenia gravis and multiple sclerosis, inflammatory can be described as exhibiting various cativities such as antixheumatic, antiarthritic, neuroprotective, antiarthritic, neuroprotective, antiarthritic, neuroprotective, or objective sequence is a single chain antibody that binds BLyS of the convention. NOTE: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format cc directely from WIPO at ftp. wipo.int/pub/published pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This invention relates to novel antibodies that immunospecifically bind to B lymphocyte stimulator (BLyS). The BLyS gene has been mapped to chromosome 13q34 and encodes a protein that is a member of the tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antibody; B lymphocyte stimulator; BLyS; tumour necrosis factor; B cell proliferation; differentiation; scry, myasthenia gravis; multiple solerosis, sathma; rheumacoid arthritis; AIDS; leukaemia; carcinoma; lymphoma; antirheumatic; antiarthritic; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; SEQ ID NO 1905; 394pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel antibody that immunospecifically binds to a B lymphocyte stimulator (BLys), useful for detecting and treating diseases or disorders e.g. rheumatoid arthritis, asthma and leukemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-505530/47.
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19-DEC-2001; 2001US-0340817P.
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RESULT 29
ADG30412
ID ADG30
AC GMAD;
AW GMAD;
AW Singl
AX Homo
AX WO20(
AX Homo

RESULT 30
AAR06251
ID AAR06
XX
AC AAR06
XX
DT 10-DE
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                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a novel antibody that specifically binds to a GMAD polypeptide comprising a first amino acid sequence that is at least 95% identical to a second amino acid sequence of a VH CDR (complementarity determining region) or VL CDR of an scFv (single chain antibody molecule). The antibody of the invention demonstrates antidiabetic activity and may be useful for diagnosing, monitoring, treating, preventing or ameliorating type II diabetes. The current sequence is that of the human scFv protein of the invention.
                                                      AAR06251;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 246 AA;
                                                                                                     AAR06251 standard; protein; 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 2; SEQ ID NO 45; 410pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New antibody that specifically binds to GMAD polypeptide, useful for diagnosing, monitoring, treating, preventing or ameliorating type II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Baker KP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-APR-2002; 2002US-0368813P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-MAR-2003; 2003WO-US009625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2003085093-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             single chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GMAD; VH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human GMBC608 scFv protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-FEB-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-OCT-2003
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                                                                                                                                                                                                                                                                                    1 YISSGGSGTYYSDSVKG 17
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                                                                                                                                                                                                                                        YISSGSSTTYYTDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDR; complementarity determining region; VL; scFv; ain antibody; antidiabetic; type II diabetes; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Albert VR,
                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                      80.9%;
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                                                                                                                                                                                                                                                                                                                                              Score 72; DB
Pred. No. 0.02
1; Mismatches
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                         DB 7;
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0.021;
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                                                                                                                                                                                                                                                                                                                                                                                               Length 246;
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10-DEC-1990

(first entry)

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAbs comprising mouse CH and CL constant regions whith human variable regions may be used to create mouse/human hybrid MAbs, which have a longer serum half-life. Method can be used to produce Abs against interleukin-2 receptor and tumour necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Expression vectors for producing chimeric monoclonal antibodies - which express human constant region and non-human variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAQ05555
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                                                                                                                                                                                                                              01-DEC-1988.
                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                   Biosynthetic antibody binding site; framework region; assay; imaging, multifunctional protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-OCT-2002
14-NOV-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 136 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1990-232892/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-DEC-1989;
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                         Huston J,
                                                                                                                         21-MAY-1987;
                                                                                                                                                                          19-MAY-1988;
                                                                                                                                                                                                                                                                            WO8809344-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biosynthetic antibody binding site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAP80156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAP80156 standard; protein; 247 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page ?; -pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zerler
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                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MOLE-) MOLECULAR THERAPEU.
                                                                          (CREA-) CREATIVE BIOMOLECULES INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YISSGGDNTYYPDTVKG
                         Oppermann H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            79.8%; ilarity 76.5%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89US-00301216.
89US-00441702.
                                                                                                                         87US-00052800.
                                                                                                                                                                          88WO-US001737.
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Pred. No. 0.01
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
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The biosynthetic antibody binding site forms part of a recombinant CC multifunctional protein which also comprises an effector protein, an AA CC sequence capable of sequestering an ion, or a sequence capable of binding CC to a solid support. The BABS comprises framework regions in both VH and CLH and CDR1 and CDR3 in VH, and CDR1, CDR2 and CDR3 in VL from an anti-CC monoclonal antibody. CDR2 in VH is a CDR2 consensus sequence found in CC receptor, binding site, growth factor, cytokine or antimetabolite. The CC receptor, binding site, growth factor, cytokine or antimetabolite. The CC requence able to bind to a solid support is streptavidin or a protein CC affinity purificn, biocatallysts, drug targetting, imaging and CC affinity purificn, biocatallysts, drug targetting, imaging and CC immunological treatment of oncogenic and infectious diseases. The protein CC improved stability. They reach target organs rapidly and are cleared CC quickly from the body. They also have reduced immunogenicity. (Updated on CC 31-OCT-2002 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Recombinant multifunctional protein - having an antibody binding site and a sequence for biological activity, ion sequestering or binding to a solid support.
Sequence 247 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page ?; 15pp; English.
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밁 S Query Match Best Local S Matches 14 53 14; 2 ISSGGSGTYYSDSVKG 17 Similarity ISSGGSNTYYPDSVKG Conservative 79.8%; 87.5%; 89 0; Score 71; Pred. No. Mismatches 0.03; DB 1; 2; Length 247; Indels 0, Gaps 0

AAB20436 standard; protein; 249

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RESULT 32
AAB20436
ID AAB20
XX AAB20
XX AAB20
XX Factc
XW Factc
XW Factc
XW Factc
XW haemm
OS Synth
OS Synth
FT Regit
FT Prote
FT Pept:
FT Pept:
FT Pept:
FT Pisc-
FT Misc
FT Misc
FT Regi
                                                                                                                                                                                                                                  Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; procoagulant; Factor VIII cofactor; blood coagulation disorder; haemophilia A; haemorrhagic diathesis; haemostatic; amidolytic; therapy; mouse.
                                Region
                                                     Misc-difference
                                                                         Misc-difference
                                                                                                                Peptide
                                                                                                                                     Region
                                                                                                                                                         Protein
                                                                                                                                                                                                    Mus musculus.
Synthetic.
                                                                                                                                                                                                                                                                             Anti-FIX/FIXa antibody 198/A1 scFv.
                                                                                                                                                                                                                                                                                                  21-JUN-2001
  WO200119992-A2
                                                                                                                                                                                          Chimeric
                                                                                                                                                                                                                                                                                                  (first entry)
                                                     224
                     230. .238
/label= CDR3
                                                                                                                    123.
                                                                                                                                                                    Location/Qualifiers
                                                                                                                           99. .111
/label= CDR3
                                                                                    /label= VL
                                                                                                                                                /label= VH
                                                                                                         label= Linker
                                          note= "encoded
                                                               note= "encoded
                                                                                               .249
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                                                             by ACN"
                                           GCN"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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Best Local
                                                                                                                               Mus musculus.
Synthetic.
Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence is that of a single chain Fv (scFv) derivative of antibody 198/A1, comprising the heavy (VH) and light (VL) chain variable regions of 198/A1 joined by an artificial, flexible linker peptide. The scFv was obtained by PCR amplification of cDNAs for 199/A1 VH and VL regions and cloning in vector pDAP2. 198/A1 is an example of anti-human Factor IX (FIXA) antibodies of the invention. Anti-FIX/FIXa and their derivatives, including scFv and CDR3 fragments, have Factor VIIIa (FVIIIa) cofactor activity or FIXa activating activity. Administration leads to an increase in the procoagulant activity of FIXa, even in the presence of FVIIIa inhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIa, and in the case of FVIII inhibitor patients. The antibodies and derivatives are used in a claimed pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis.
                                                                                                                                                                                     Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; procoagulant; Factor VIII cofactor; blood coagulation disorder; haemophilia A; haemorrhagic diathesis; haemostatic; amidolytic; therapy; mouse.
                                                                                                                                                                                                                                                                             21-JUN-2001
                                                                                                                                                                                                                                                                                                                                     AAB20435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 249 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 10; Fig 17; 138pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-290358/30.
N-PSDB; AAF30726.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scheiflinger F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22-MAR-2001
   Protein
                            Peptide
                                                        Region
                                                                                                   Хeу
                                                                                                                                                                                                                                                Anti-FIX/FIXa antibody 198/AB2 scFv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BAXT ) BAXTER AG
                                                                                      Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                              51
                                                                                                                                                                                                                                                                                                                                                                                                                                         N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                     standard;
                                                                                                                                                                                                                                                                                                                                                                                                              ISSGGSSTYYPDSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-EP008936
                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99AT-00001576
123. .136
/label= Linker
137. .249
                                          /label= CDR3
                                                                       1. .122
/label= VH
                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kerschbaumer R,
                                                                                                                                                                                                                                                                                                                                    protein; 249
                                                           .102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  79.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 71; DB 4;
Pred. No. 0.031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Falkner F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dorner F;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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RESULT 34
AAB20442
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Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence is that of a single chain Fv (scFv) derivative of antibody 198/AB2, comprising the heavy (VH) and light (VL) chain variable regions of 198/AB2 joined by an artificial, flexible linker peptide. The scFv was obtained by PCR amplification of cDNAs for 198/AB2 VH and VL regions and cloning in vector pDAP2. 198/AB2 is an example of anti-human Factor IX (FIXA) antibodies of the invention. Anti-FIX/FIXa and their derivatives, including scFv and CDR3 fragments, have Factor VIIIa (FVIIIa) cofactor activity or FIXa activating activity. Administration leads to an increase in the procoagulant activity of FIXa, even in the presence of FVIIIa inhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIa, and in the case of FVIII pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis.
                                                                                                                                                                                                                                                        AAB20442 standard; protein; 294 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scheiflinger F, Kerschbaumer R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                             Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; procoagulant;
Factor VIII cofactor; blood coagulation disorder; haemophilia A;
haemorrhagic diathesis; haemostatic; amidolytic; therapy; mouse;
                                                                                                                                                                                                  21-JUN-2001
                                                                                                                                                                                                                              AAB20442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 12; Fig 16; 138pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-SEP-2000; 2000WO-EP008936.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-MAR-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200119992-A2
                                           Chimeric.
                                                        Synthetic.
Escherichia
                                                                                                                                                                      Anti-FIX/FIXa antibody 198/B1-myc-tag fusion
                                                                                    Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BAXT ) BAXTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-290358/30.
DB; AAF30725.
                                                                                                                                                                                                                                                                                                                               51
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                                                                                                                                                                                                                                                                                                                                                          ISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                ISSGGSSTYYPDSVKG
                                                        coli.
                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              AA,
                                                                                                                                                                                                 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label= VL
230. .238
/label= CDR3
Location/Qualifiers
1. .22
                                                                                                                                                                                                                                                                                                                                                                                                   79.8%;
                                                                                                                                                                                                                                                                                                                                66
                                                                                                                                                                                                                                                                                                                                                          17
                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                   Score 71;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Falkner F,
                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                     DB 4;
                                                                                                                                                                                                                                                                                                                                                                                      ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dorner
                                                                                                                                                                                                                                                                                                                                                                                                                 Length 249;
                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                               myc-tag.
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Key

Peptide

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                     S
                                                                                                                                 The present sequence is that of a fusion protein comprising: a PelB C leader, a single chain Fv (6cFv) derivative of antibody 198/B1 comprising the heavy (VH) and light (VL) chain variable regions of 198/B1 joined by an artificial, flaxible linker peptide; a spacer; a Myc-tag peptide; a spacer, and a C-terminal fills affinity tail. 198/B1 is an example of antionary control of the state of the convention. Anti-FIX/FIXA antibodies and their derivatives, including scFv fragments, have FVIIIa cofactor activity or FIXA activative activity. Administration leads to an increase in the procoagulant activity of FIXA, even in the presence of FVIII ainhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIA, and in the case of FVIII inhibitor patients. The antibodies and derivatives are used in a colaimed pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic like activity.
                                                Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                 New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                  Sequence 294
                                                                                                                                                                                                                                                                                                                                           Example 18; Fig 34; 138pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-SEP-2000; 2000WO-EP008936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200119992-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein
                                                                                                                            FVIII-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scheiflinger F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BAXT)
                                                                                                                                                                                                                                                                                                                                                                                                                      2001-290358/30
DB; AAF30732.
 73
                       N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BAXTER
                                                            Similarity
                       ISSGGSGTYYSDSVKG
                                                                                                                          The scFv-myc-tag activity
                                                  Conservative
                                                                                                  Ā
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99AT-00001576
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kerschbaumer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= Signal_peptide
23. .294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     272. .274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= VH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= Myc_tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= scFv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= Mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= His_tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label= Spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= Linker
                                                           79.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Spacer
88
                       17
                                                           Score 71; DB 4;
Pred. No. 0.037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          æ,
                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Falkner
                                                                                                                                                                                                                                                                                                                                                                                                                                                          'n
                                               2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dorner
                                                                        Length 294;
                                               0,
                                                Gaps
                                               0;
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RESULT 35 AAB20438

The present sequence is that of a bivalent miniantibody comprising a Puleader peptide, the single chain Fv (gcFv) fragment of antibody 199/B1 (subclone AB2), an amphipathic helical structure and a C-terminal 6His tag. The protein was expressed in Escherichia coli from plasmid pZip198AB2#102 (see AAF30728). Antibody 198/B1 is an example of anti-

Example 16; Fig 28; 138pp; English.

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New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis.
                                                                                                                                13-SEP-2000; 2000WO-EP008936.
                                                                                                                                                                            Peptide
                                                                                                                                                                                                                Peptide
                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                    Peptide
                                                                          N-PSDB;
                                                                                WPI;
                                                                                            Scheiflinger F,
                                                                                                                     14-SEP-1999;
                                                                                                                                             22-MAR-2001
                                                                                                                                                         WO200119992-A2
                                                                                                                                                                                        Protein
                                                                                                                                                                                                    Protein
                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                      Protein
                                                                                                                                                                                                                                                                                                                  Protein
                                                                                                                                                                                                                                                                                                                                           Key
                                                                                                                                                                                                                                                                                                                                                       Chimeric
                                                                                                                                                                                                                                                                                                                                                             Synthetic.
Escherichia
                                                                                                                                                                                                                                                                                                                                                                          Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                     Anti-FIX/FIXa antibody 198/B1 bivalent miniantibody
                                                                                                                                                                                                                                                                                                                                                                                                                                 21-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB20438
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB20438 standard; protein; 325
                                                                                                       (BAXT ) BAXTER
                                                                         2001-290358/30.
DB; AAF30728.
                                                                                                                                                                                                                                                                                                                                                             coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                     99AT-00001576
                                                                                                                                                                                                                                               160. .27
/label=
                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                          166
                                                                                                                                                                                                                                                                   145.
                                                                                                                                                                                 /label=
                                                                                                                                                                                                                                                                                                                        /label= Signal_peptide
/note= "PelB leader"
                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                            Kerschbaumer
                                                                                                                                                                                              /label=
                                                                                                                                                                                                           /label=
                                                                                                                                                                                                                      'note= "encoded
                                                                                                                                                                                                                                   note= "encoded"
                                                                                                                                                                                                                                                                       'note= "encoded
                                                                                                                                                                                                                                                                                          label= scFv
23. .144
                                                                                                                                                                                                                                                                                                            /label= Mature_protein
                                                                                                                                                                                                                                                          abel= Linker
                                                                                                                                                                                                                                                                                    .abel= VH
                                                                                                                                                                                    .319
                                                                                                                                                                                                                                                                 .159
                                                                                                                                                                                                                                                                                                                   .325
                                                                                                                                                                                                                 . 274
                                                                                                                                                                                                                                                                                                       271
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                                                                                                                                                                     His_tag
                                                                                                                                                                                  Helix
                                                                                                                                                                                                         Spacer
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                                                                                            Falkner
                                                                                                                                                                                                                       TCN"
                                                                                                                                                                                                                                    "TNT
                                                                                                                                                                                                                                                                        GGN"
                                                                                            'TJ
                                                                                            Dorner
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ARBSULT 36
AAB20437
AAB20437
AAC AAB20
AX AAB20
AX AAB20
AX AAB20
AX AAL1
AX Facto
KW Facto
KW Facto
KW Facto
KW Haemo
KW Facto
K
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human Factor IX (FIX)/activated Factor IX (FIXa) antibodies of the invention. Anti-FIX/FIXa antibodies and their derivatives have FVIIIa cofactor activity or FIXa activating activity. Administration leads to an increase in the procoagulant activity of FIXa, even in the presence of FVIIIa inhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIa, and in the case of FVIII inhibitor patients. The antibodies and derivatives are used in a claimed pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic diathesis. The bivalent miniantibody exhibited FVIII-like activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; Factor VIII cofactor; blood coagulation disorder; haemorrhagic diathesis; haemostatic; amidolytic; talkaline phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB20437 standard; protein; 732 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 325
                                                    14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Anti-FIX/FIXa antibody 198/B1-alkaline phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB20437;
                                                                                                    13-SEP-2000; 2000WO-EP008936
                                                                                                                                                                                                         WO200119992-A2
                                                                                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Escherichia coli.
     (BAXT ) BAXTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
K
                                                    99AT-00001576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23. .144
/label= VH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= Signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                   /label= His_tag
                                                                                                                                                                                                                                                                                                        'label= Alkaline_phosphatase
                                                                                                                                                                                                                                                                                                                                   /label= Spacer
276. .725
                                                                                                                                                                                                                                                                                                                                                                                                             label= VL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= scFv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                            label= Linker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note= "encoded
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                                                                                                                                                                                                                                                                                                                                                                                        . 275
                                                                                                                                                                                                                                                                                                                                                                                                                                          . 271
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 71; DB 4;
Pred. No. 0.041;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 325;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              therapy; mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         procoagulant;
haemophilia A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ,
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                             The present sequence is that of a fusion protein comprising: a PelB leader; a single chain Fv (scFv) derivative of antibody 198/B1 comprising the heavy (VH) and light (VI) chain variable regions of 198/B1 joined by an artificial, flexible linker peptide; a spacer; Escherichia coli alkaline phosphatase; and a C-terminal 6H1s affinity tail. 198/B1 is an example of anti-human Factor IX (FIX)/activated Factor IX (FIXa) cantibodies of the invention. Anti-FIX/FIXa antibodies and their activity. Administration leads to an increase in the procoagulant activity of FIXa, even in the presence of FVIII or FVIIIa, and in the case of FVIII inhibitor patients. The antibodies and derivatives are used in a claimed pharmaceutical composition for treating derivatives are used in a claimed pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic diathesis. The scFv-alkaline phosphatase was expressed in E. coli. It exhibited FVIII-like activity
                                                                                                                                                                                                                                                                                                                                                 Sequence 732 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis.
LK26 humanised VH region.
                                     22-MAR-1996
                                                                                                             AAR82986 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 16; Fig 26; 138pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scheiflinger F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-290358/30.
                                                                                                                                                                                                     73
                                                                                                                                                                                                                                                                         14;
                                                                                                                                                                                                                                      2 ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                           Conservative
                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kerschbaumer R,
                                                                                                           protein; 119 AA.
                                                                                                                                                                                                                                                                                          79.8%;
87.5%;
                                                                                                                                                                                                     88
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Pred.
                                                                                                                                                                                                                                                                           Mismatches
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                                                                                                                                                                                                                                                                                            No. 71;
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                                                                                                                                                                                                                                                                                            DB 4;
0.097;
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RESULT 37
AAR82986
ID AAR82
XX
AC AAR82
XX
DT 22-M
XX
DE LK26
XX
LK26
XX
Comp
KW fram
XX
FH Key
FT Mis
                                                                                                                                                                                                                                                          LK26 antigen; humanised antibody; antibody engineering; CDR; complementarity determining region; monoclonal antibody; heavy chain; framework NEWM; cancer; diagnosis; LK26HuVHI, I.
                            WO9524482-A1
                                                                 Misc-difference
                                                                                         Misc-difference
                                                                                                                   Misc-difference
                                                                                                                                          Misc-difference 48.
                                                                                                                                                                      Misc-difference
                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                     /note= "murine residue"
27
                                                                 95
                                                                                           93
                                                                                                                                                                                                          Location/Qualifiers
                                                                                                     note=
                                                                                                                               note=
                                                                                                                                                       note= "murine residue"
                                                                             note=
                                                                                                                                            . 49
                                                    "murine residue"
                                                                                                       "murine
                                                                             "murine
                                                                                                                                "murine residues"
                                                                                                       residue"
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RESULT 38
AAR82980
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A humanised heavy chain variable region (AAR82979), LK26HuVH, comprises the human NEWM framework (with some additional murine framework residues required for antigen specificity) and mouse complementarity determining regions from a monoclonal antibody specific for the LK26 cancer antigen. LK26HuVH and its variants (AAR82980-82, AAR82986) are used as components of humanised anti-LK26 antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LK26 antigen; humanised antibody; antibody engineering; CDR; complementarity determining region; monoclonal antibody; heavy chain; framework NEWM; cancer; diagnosis; LK26HuVHFAIS, N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1995-328273/42.
                                                                   08-MAR-1994;
                                                                                                                                                               14-SEP-1995.
                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LK26 humanised VH region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-MAR-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR82980 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Page 23; 45pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Recombinant humanised anti-LK26 antibody - useful
                                                                                                            08-MAR-1995;
                                                                                                                                                                                                             WO9524482-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SCOT-) SCOTGEN BIOPHARMACEUTICALS (LUDW-) LUDWIG INST CANCER RES.
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SCOTGEN BIOPHARMACEUTICALS INCLUDWIG INST CANCER RES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISSGGSYTYYADSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78.7%; ilarity 87.5%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in a human.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                   94US-00207996
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                                                                                                                 95WO-US003094
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                                                                                                                                                                                                                                                                                                                        /note=
.72
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                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "murine residue"
27
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                                                                                                                                                                                                                                                                                                                                                "murine
                                                                                                                                                                                                                                                         "murine residue"
                                                                                                                                                                                                                                                                                                       "murine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 70; DB 2;
Pred. No. 0.019;
                                                                                                                                                                                                                                                                                                       residues
                                                                                                                                                                                                                                                                                                                                                  residues'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>ب</u>
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RESULT 39
AAR82981
AAR82981
AC AAR82
XX AAR82
XX LX26
CX LX26
CX LX26
CX CCMp

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Matches 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LK26 antigen; humanised antibody; antibody engineering; CDR; complementarity determining region; monoclonal antibody; hea framework NEWM; cancer; diagnosis; LK26HuVHSLF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wallace TP,
                                                                 WPI; 1995-328273/42.
                                                                                                                                               (SCOT-)
                                                                                                                                                                                                              08-MAR-1994;
                                                                                                                                                                                                                                                     08-MAR-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-MAR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR82981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR82981 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of humanised anti-LK26 antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Recombinant humanised anti-LK26 antibody - useful to treat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1995-328273/42.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14;
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                                                                                                                                               SCOTGEN
LUDWIG I
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                                                                                                        TP,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Page 23; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                        Harris
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                                                                                                                                               N BIOPHARMACEUTICALS INST CANCER RES.
                                                                                                                                                                                                              94US-00207996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein; 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΨJ,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "murine
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                                                                                                                                                                                                                                                                                                                                                                                                                          "murine
                                                                                                                                                                                                                                                                                                                                                                                "murine residues'
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Recombinant humanised cancer cells in a huma

anti-LK26

antibody - useful

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treat

and

detect

Example 1; Page 23; 45pp; English.

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RESULT 40
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ID AAR82
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LK26 antigen; humanised antibody; antibody engineering; CDR; complementarity determining region; monoclonal antibody; heavy chain; framework KOL; cancer; diagnosis; LK26KOLHuVH.
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required for antigen specificity) and mouse complementarity determining regions from a monoclonal antibody specific for the LK26 cancer antigen. LK26KUVH and its variants (AAR82980-82, AAR82986) are used as components of humanised anti-LK26 antibodies
                                                                                                    A humanised heavy chain variable region (AAR82979), LK26HuVH, comprises the human NEWM framework (with some additional murine framework residues
                                                                                                                                                                         Example 1; Page 23; 45pp; English.
                                                                                                                                                                                                                              Recombinant humanised anti-LK26 antibody - useful cancer cells in a human.
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|||||| |||:|||||
51 ISSGGSYTYYADSVKG 66
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LUDWIG INST CANCER RES.
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Result
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US-09-36-36-362-2
US-08-207-996-21
US-08-207-996-21
US-08-207-996-21
US-08-207-996-22
US-08-760-840A-18
US-08-760-840A-19
US-08-760-840A-21
US-08-760-840A-22
US-09-266-119-19
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Sequence 18, Appl
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Sequence 8, Appli
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Sequence 2, Appli
Sequence 2, Appli
Sequence 21, Appl
Sequence 19, Appl
Sequence 20, Appl
Sequence 21, Appl
Sequence 22, Appl
Sequence 21, Appl
Sequence 21, Appl
Sequence 22, Appl
Sequence 21, Appl
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•	Sequence 53, Appl	•	Sequence 10, Appl	•	Sequence 9, Appli	Sequence 5, Appli	Sequence 7, Appli	Sequence 4, Appli	Sequence 4, Appli	Sequence 20, Appl	Sequence 4, Appli	•	•	•	•	Sequence 21, Appl	•

ALIGNMENTS

PRIOR APPLICATION NUMBER: US 08/454,680 PRIOR FILING DATE: 1995-05-31 PRIOR FILING DATE: 1995-03-21 PRIOR PELLING DATE: 1995-03-21 PRIOR PELLING DATE: 1994-08-17 PRIOR PELLING DATE: 1994-08-17 PRIOR APPLICATION NUMBER: US07/947,674 PRIOR APPLICATION NUMBER: US07/947,674 PRIOR APPLICATION NUMBER: US07/947,674 PRIOR APPLICATION NUMBER: US07/947,674 PRIOR PELLING DATE: 1991-09-18 PRIOR PELLING DATE: 1991-09-18 NUMBER OF SEQ ID NOS: 19 RESULT 1 US-09-225-322B-18 US-09-225-322B-18 Query Match Best Local S Matches 17 Sequence 18, Application US/09225322B Patent No. 6437098 GENERAL INFORMATION: SOFTWARE: PatentIn Ver. SEQ ID NO 18 APPLICANT: SHITARA, KENYA APPLICANT: HANAI, NOBUO APPLICANT: HASEGAWA, MAWORU APPLICANT: HASEGAWA, MAWORU APPLICANT: MIYAJI, HIROMASA APPLICANT: KUWANA, YOSHIHISA TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY FILE REFERENCE: 249-101 CURRENT APPLICATION NUMBER: US/09/225,322B CURRENT FILING DATE: 1999-01-05 ORGANISM: Artificial Sequence PEATURE: OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641 TYPE: PRT LENGTH: 130 60 1 YISSGSSGTYYSDSVKG 17 Similarity YISSGGSGTYYSDSVKG Conservative 100.0%; 76 0 Score 89; DB 4; Pred. No. 2.3e-05; Mismatches 0; Length 130; Indels 0 Gaps

RESULT 2 US-09-764-304-18

Sequence 18, Application US/09764304
Patent No. 6495666
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO

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APPLICANT: KUWANA, YOSHIHISA
INPLICANT: KUWANA, YOSHIHISA
ITITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT FILING DATE: 199-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR PILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR PRIOR DATE: 1991-09-18
PRIOR PILING DATE: 1991-09-18
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                                                  ; OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641
US-09-225-322B-8
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CURRENT APPLICATION NUMBER: US/09/764,304

CURRENT FILING DATE: 2001-01-19

EARLIER APPLICATION NUMBER: 09/225,322

EARLIER FILING DATE: 1999-01-05

EARLIER APPLICATION NUMBER: US 08/454,680

EARLIER FILING DATE: 1995-05-31

EARLIER APPLICATION NUMBER: US 08/408,133

EARLIER FILING DATE: 1995-03-21

EARLIER FILING DATE: 1995-03-21

EARLIER APPLICATION NUMBER: US 08/292,178

EARLIER FILING DATE: 1994-08-17

EARLIER FILING DATE: 1994-09-17

EARLIER FILING DATE: 1992-09-17
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EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 18
FERENCE: 19
                                                                                                                                                NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 8
LENGTH: 130
TYPE: PRT
Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       equence 8, Application US/09225322B
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APPLICANT: KUWANA, YOSHIHISA
                                                                                                    ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: CDNA KM-641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 89;
100.0%; Pred. No.
  92.1%;
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Score 82;
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PCT-US94-07659-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 8
LENGTH: 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: SHITARA,
APPLICANT: HANAI, N
                                                                                                                                                                                                                                                                                        Sequence 6, Application:
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Best Local (
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CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILLING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILLING DATE: 1999-01-05
EARLIER FILLING DATE: 1999-01-05
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER FILLING DATE: 1995-05-31
EARLIER FILLING DATE: 1995-05-31
EARLIER FILLING DATE: 1995-05-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EARLIER APPLICATION NUMBER: US07/947,674
EARLIER FILING DATE: 1992-09-17
EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER FILING DATE: 1991-09-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial Sequence FEATURE:
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APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                         APPLICANT: Jackson, Jeffrey R. TITLE OF INVENTION: Recombinant TITLE OF INVENTION: Antibodies TITLE OF INVENTION: Disorders
                                                                                       NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                  STREET:
                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                      61 ISSGGSGTYYSDSVKG
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King of Prussia
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                                                                                                                                                                                                                                                                                                               Application PC/TUS9407659
                                  E: SmithKline Beecham Corporation - CorpE: Intellectual Property709 Swedeland Road
                                                                                                                                                                                               Theisen, Tin
Hurle, Mark
                                                                                                                                                                                                                                                      Gross,
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100.0%; Pred. No.
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                                                                                                                         Recombinant and Humanized Il-1 beta
Antibodies for Treatment of Il-1 Mediated Inflammatory
Disorders in Man
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; Mismatches 0;
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ZIP: 19406-2799 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk

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PCT-US94-07659-6
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Best Local Similarity 82.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
PRIOR APPLICATION NUMBER: US 08/090,534
APPLICATION NUMBER: US 08/090,534
FILLING DATE: 09-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: SULTON, Jeffrey A.
REGISTRATION NUMBER: 34,028
REFERENCE/DOCKET NUMBER: P50171-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
TELEPHONE: (610) 270-5024
TELEPAX: (610) 270-5090
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acids
TOPOLOGY: line
WOLECHTP
                                                                                              COUNTRY: USA
ZIP: 19406-2799
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/07659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compactible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/090,534
FILING DATE: 09-JUL-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Jackson, Jeffrey R.
TITLE OF INVENTION: Recombined and Humanized Il-1 beta
TITLE OF INVENTION: Antibodies for Treatment of Il-1 Mediated Inflammatory
TITLE OF INVENTION: Disorders in Man
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PPLICANT:
                                                                                                                                                                                                                                                                                            ADDRESSEE: SmithKline Beecham Corporation - Corp
ADDRESSEE: Intellectual Property
STREET: 709 Swedeland Road
CITY: King of Prussia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: PCT/US94/07659 FILING DATE:
                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                              STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     50 YISSGGGTYYPDTVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application PC/TUS9407659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gross, Mitchell
Jonak, Zdenka L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Theisen, Tir
Hurle, Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Young, Peter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Timothy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86.5%; Score 77; DB 5; 82.4%; Pred. No. 0.001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 119;
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                                                            , MOLECULE TYPE: US-08-326-362-2
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SEQUENCE CHARACTERISTICS:
LENGTH: 247 amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Bosslet
APPLICANT: Seeman,
APPLICANT: Dippold
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local (
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                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/032,863
FILING DATE: 17-MAR-1993
APPLICATION NUMBER: DE P 42 08 795.3
FILING DATE: 19-MAR-1992
ATTORNEY/AGENT: INFORMATION:
NAME: Einaudi, Carol P.
REGISTRATION NUMBER: 02481-1276-000
REFERENCE/DOCKET NUMBER: 02481-1276-000
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                       TELEFAX: 202-408-4400
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 118 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 20005-3315
COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
COMPUTER: FOR PC-DOS/MS-DOS
COPPRATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Bosslet, Klaus
APPLICANT: Seeman, Gerhard
APPLICANT: Seeman, Gerhard
APPLICANT: Dippold, Wolfgang
TITLE OF INVENTION: Monoclonal Anti-Ganglioside Antibody,
TITLE OF INVENTION: Its Preparation and Use as a Tumortherapeutic Agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/326,362
FILING DATE:
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 34,028
REFERENCE/DOCKET NUMBER: P5
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Finnegan, Henderson, Farabow, Garrett & ADDRESSEE: Dunner
                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2,
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                                                                                                H: 118 amino acids
amino acid
OGY: linear
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amino acid
XGY: linear
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1300 I Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                             peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86.5%; Score 77;
82.4%; Pred. No.
                                                                                                                                                                                                                                                                      02481-1276-00000
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Score
Pred.
75;
No.
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0.0021;
0.0019;
                     DB 1;
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                     Length 118;
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; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-207-996-18
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Patent No.
                                                                                                                    Sequence 19, Application US/08207996 Patent No. 5646253 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch
COMPUTER; IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, PATRICIA A.
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                         APPLICANT:
                                                                                                      APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: RECOMBINANTITLE OF INVENTION: ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 08-MAR CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: U
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No. 5646253
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                                                                                                                                                                                                                           51 ISSGGSYTYYADSVKG
                                                                                                                                                                                                                                                                                     14;
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                                                                                                                                                                                                                                                                                   Conservative
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1345 Avenue of the Americas
New York, New York 10105
United States of America
                                                          Scotgen Biopharmaceuticals,
1014 Hamilton Court
Menlo Park, California 94025
United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scotgen Biopharmaceuticals,
1014 Hamilton Court
Menlo Park, California 94025
                                            1345 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                212-688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Felfe & Lynch
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08-MAR-1994
                                                                                                                                                                                                                                                                                                   78.7%; Score 70; DB 1; Length 119; 87.5%; Pred. No. 0.0096;
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                                                                                                       Inc.
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                                                                                                                                                                                                                                                                                     1; Indels
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COUNTALL
ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: TBM PC COMPUTER: WordPerfect 6.0/ASCII standard
                                                                                                                                                                                                                                                                                                                                                                                             Patent No.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Scotge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: sing
TOPOLOGY: linear
MOLECULE TYPE: DNA
                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14;
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COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/207,996
FILING DATE: 08-MAR-194
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, PATRICIA A.
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-5363
TELECOMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPAX: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 19: SEQUENCE CHARACTERISTICS:
                                                                                                                                            APPLICANT: New York, New York 10105
APPLICANT: United States of America
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26
TITLE OF INVENTION: ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: New York, New York 10105
APPLICANT: United States of America
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26
                                                                                      NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 ISSGGSGTYYSDSVKG 17
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                                                                                                                                                                                                United States of America
1345 Avenue of the Americas
New York, New York 10105
United States of America
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                                                                                                                                                                                                                                                                                        1014 Hamilton Court
Menlo Park, California 94025
                                                                                                                                                                                                                                                                                                                                   Scotgen Biopharmaceuticals,
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87.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 70; DB 1;
Pred. No. 0.0096;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1; Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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CURRENT APPLICATION DATA:

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; TOPOLOGY: 1:
; MOLECULE TYPE:
US-08-207-996-20
                                                                                                                    COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/207,996
FILING DATE: 08-MAR-1994
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, Patricia A.
REFERENCE/DOCKET NUMBER: 1UD-5363
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TETTERENCE/DOCKET NUMBER: TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 78.7%; Score 70; D
Best Local Similarity 87.5%; Pred. No. 0.
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TELEPHONE: 212-688-9200
TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 20:
                                                                                        TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 21:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, PATRICIA A.
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-
                                                                    SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                               CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PPLICANT:
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FILING DATE: 08-MAR-1994
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acids
                 TYPE: amino acid
STRANDEDNESS: sir
                                                   ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             51 ISSGGSYTYYADSVKG 66
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                                                   119 amino acids
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United States of America
1345 Avenue of the Americas
New York, New York 10105
United States of America
VENTION: RECOMBINANT HUMAN ANTI-LK26
VENTION: ANTIBODIES
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1014 Hamilton Court
linear
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                                                                                                                      ; TYPE: amino acid
STRANDEDNESS: Single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-207-996-22
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                                                           Matches
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                                                                        Query Match
Best Local Similarity
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MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/207,996
FILLNG DATE: 08-MAR-1994
CLASSIFICATION: 530
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APPLICANT: Scotge:
APPLICANT: 1014 H
                                                                                                                                                                                                                               TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEFAX: 212-838-3884
                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Pasqualini, Patricia A.
REGISTRATION UNMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-
                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 10022
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                LENGTH:
51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51 ÍSSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14; Conservative
                2 ISSGGSGTYYSDSVKG 17
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805 Third Avenue
                                                                                                                                                                                               119 amino acids
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                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New York, New York 10105
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United States of America
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                                                                        78.7%;
87.5%;
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87.5%;
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                                                                        Score 70; DB 1;
Pred. No. 0.0096;
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Pred. No.
                                                           Mismatches
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                                                           1; Indels
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US-08-207-996-27 US-08-207-996-27 ; Sequence 27, Application US/08207996 ; Patent No. 5646253

GENERAL INFORMATION:

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RESULT 14
US-08-760-840A-18
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                                                                                                                                                                                                                                                                                                             Patent No. 5952484
GENERAL INFORMATION:
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MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION NOTHER: US/08/207,996
FILING DATE: 08-MAR-1994
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Pasqualini, Patricia A.
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-5363
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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APPLICANT:
APPLICANT:
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                                                                                                                                                                                                           TITLE OF
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                                                                                                   STREET: 805 Third Avenue
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
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STATE: New York
COUNTRY: U.S.A.
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TOPOLOGY: li
                                                                     COUNTRY: U.S.A. ZIP: 10022
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                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                   51 ISSGGSYTYYADSVKG 66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
                                                                                                                                                                                                  T: William J. HARRIS;
T: Wolfgang J. RETTIG;
T: Pilar GARIN-CHESA;
T: Lloyd J. OLD
INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                 Application US/08760840A
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805 Third Avenue
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1345 Avenue of the Americas
New York, New York 10105
United States of America
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1014 Hamilton Court
Menlo Park, California 94025
                                                                                                                                                                                                                                                                                               Paul WALLACE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                       Felfe & Lynch
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   78.7%; Score 70; DB 1; Length 119; 87.5%; Pred. No. 0.0096; ative 1; Mismatches 1; Indels
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Best Local Similarity 87.5%;
Matches 14; Conservative
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INFORMATION FOR SEQ ID NO: 18:
                             EILING DATE: 08-MAR-1995
CLASSIFICATION: 536
ATTORNEY, AGENT INFORMATION:
NAME: Hanson, No. 5952484man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: HARSON, NO. 5952484man D.
REGISTRATION UNMERR: 30,946
REFERENCE/DOCKET NUMBER: LUD 53
TELECOMMUNICATION INFORMATION:
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PRIOR APPLICATION NUMBER:
                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
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STATE: New York
COUNTRY: U.S.A.
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STRANDEDNESS: unl
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                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                             APPLICATION NUMBER: FILING DATE: 05-DE
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TELEPHONE: 212-688-92
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5952484
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805 Third Avenue
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                                                                                                                                                           PCT/US 95/03094
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                                                   LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 70; DB 2;
Pred. No. 0.0096;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
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US-08-760-840A-20
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                                                              Matches
                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 equence 20, Application US/08760840A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tent No.
                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/760,840A
FILING DATE: 05-DEC-1996
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US 95/03094
FILING DATE: 08-MAR-1995
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                     TOPOLOGY: unknown MOLECULE TYPE: protein
                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: unknown MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PPLICANT: Lloyd J. OLD
ITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
UMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                    NAME: Hanson, No. 5952484man D. REGISTRATION NUMBER: 30,946 REFERENCE/DOCKET NUMBER: LUD 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match 78.7%;
Local Similarity 87.5%;
                                                             Local Similarity 87.9
                                                                                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET:
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51
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                            2 ISSGGSGTYYSDSVKG 17
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ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3: Felfe & Lynch
805 Third Avenue
                                                                                                                                                                                                                                                    212-838-3884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    William J. HARRIS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U.S.A.
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                                                                                                                                                                        unknown
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                                                                          78.7%;
87.5%;
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                                                                            Score 70; DB 2; Pred. No. 0.0096;
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Pred. No.
                                                              Mismatches
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                                                                                          Length 119;
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                                                             Indels
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                                                             Gaps
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US-08-760-840A-22
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US-08-760-840A-21
                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 14; Conserv
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                                                                                                                                                                            Sequence 22,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/760,840
FILING DATE: 05-DEC-1996
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US 95/030
FILING DATE: 08-MAR-1995
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 5952484man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363
                                                                                                                                       atent No. 5952484
GENERAL INFORMATION:
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OPERATING SYSTEM: PC-L

OPERATING SYSTEM: PC-L

OPERATION DATA
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                               APPLICANT:
                CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DRESSEE: Felfe & Lynch
REET: 805 Third Avenue
TY: New York
ATE: New York
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                            ANT: Lloyd J. OLD

OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                         amino acid
                                                                                                                                                                                                                                                            ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                   ISSGGSGTYYSDSVKG 17
                                                                                                                                                                          Application US/08760840A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119 amino acids
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William J. HARRIS;
Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
                                                                                                            Paul WALLACE;
William J. HARRIS;
                                                                                                                                                                                                                                                                                                                            Conservative
                                                                            Pilar GARIN-CHESA;
                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
                                                                                                                                                                                                                                                                                                                                        78.7%;
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                                                                                                                                                                                                                                                                                                                                         Score 70;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                         DB 2;
0.0096;
                                                                                                                                                                                                                                                                                                                                                         Length 119;
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RESULT 19
US-08-760-840A-28
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PILING DATE: 05-DEC-1996

CLASSIFICATION: 536

PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US 95/03094

PILING DATE: 08-MAR-1995

CLASSIFICATION: 536

ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 5952484man D.
REGISTRATION NUMBER: 30,946

REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. 5952484
GENERAL INFORMATION:
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Best Local (
                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/760,840A
PILING DATE: 05-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Paul WALLACE;
APPLICANT: William J. HARRIS;
APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                    ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York
STATE: New York
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CITY: New York
STATE: New York
                                                                                                                                                                                                                                 COUNTRY: U.S.A. ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: U.S.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          51 ISSGGSYTYYADSVKG 66
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14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/08760840A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
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87.5%; Pred. No. 0.0096;
vative 1; Mismatches
    PCT/US 95/03094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2; Length 119;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 78.7%; Score 70; DB 2; Best Local Similarity 87.5%; Pred. No. 0.0096; Matches 14; Conservative 1; Mismatches
                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION NUMBER: US/09/266,119
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                            TELEPHONE: 212-688-9200
TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 18:
                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/760,840
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 536:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
TOPOLOGY: u
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: New York
STATE: New York
COUNTRY: U.S.A.
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REFERENCE/DOCKET NUMBER: LUD 53
                                TYPE: amino acid
STRANDEDNESS: unl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 212-688-9200
TELEFAX: 212-838-3884
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805 Third Avenue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Paul WALLACE;
William J. HARRIS;
                 unknown
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RESULT 22
US-09-266-119-20
; Sequence 20, Applicati
; Sequence No. 6124106
; Patent No. 6124106
; GENERAL INFORMATION:
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US-09-266-119-19
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                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/266,119
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION NUMBER: 08/760,840
PRIOR APPLICATION NUMBER: 08/760,840
                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363
TELECOMMUNICATION INFORMATION;
TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 19:
                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  / Match 78.7%; Score 70; December 78.7%; Pred. No. 0.
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                                                                                                                                    2 ISSGGSGTYYSDSVKG 17
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                                Application US/09266119
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805 Third Avenue
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                                                                                                                                                                                                                                                                                                                                                                                  212-838-3884
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                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                   unknown
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                                                                                                                                                                                                78.7%; Score 70;
87.5%; Pred. No.
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                                                                                                                                                                                  Mismatches
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
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                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: unl
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: U.S.A. ZIP: 10022
                                  COUNTRY: U.S.A. ZIP: 10022
                                                                                  CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                                                                    51 ISSGGSYTYYADSVKG 66
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14; Conserv
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                                                                  New York
                                                                                                                                                                                                                                                                                                   Application US/09266119
                                                                                                   B: Felfe & Lynch
805 Third Avenue
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805 Third Avenue
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William J. HARRIS;
Wolfgang J. RETTIG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
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87.5%;
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Patent No. 6124106
GENERAL INFORMATION:
APPLICANT: Paul WALLACE;
APPLICANT: William J. HARRIS;
APPLICANT: William J. RETTIG;
APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Llayd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 1
ADDRESSES: Felfe & Lynch
ADDRESSES: Felfe & Lynch
ADDRESSES: Felfe & Lynch
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ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPHONE: 212-688-3884
INFORMATION FOR SEQ ID NO: 20:
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APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 70;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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0.0096;
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OPERATING SYSTEM: SOFTWARE: Wordpe

IBM PC compatible SYSTEM: PC-DOS/MS-DOS

COMPUTER:

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Best Local Similarity
Matches 14; Conserv
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GENERAL INFORMATION:
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                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/266,119
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION INFORMATION:
                                                                                                                                 CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
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APPLICATION NUMBER:
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CURRENT APPLICATION DATA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
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STREET: 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PPLICANT: William J. HARRIS;
PPLICANT: Wolfgang J. RETTIG;
PPLICANT: Pilar GARIN-CHESA;
PPLICANT: Lloyd J. OLD
PPLICANT: WILLIAM J. HARRIS;
                                                                                                                                                                                                                                                                                                                                                         COUNTRY: U.S.A. ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                           CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/09/266,119 FILING DATE:
                                                                                                                     FILING DATE:
                                                                                                                                                                                                  FILING DATE:
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                                                                                                                                        08/760,840
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; MOLECULE TYPE: protein
US-09-266-119-22
                                                                                       US-09-266-119-28
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                                         Query Match
Best Local Similarity
                              Matches
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Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                         TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: BUCK
CITY: New York
STATE: New York
STATE: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: F
APPLICANT: F
APPLICANT: F
                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: LU
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
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NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/266,119
                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
STRANDEDNESS: unknown
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                                                                                                                                                                LENGTH:
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6124106
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l Similarity 87.5%;
l4; Conservative 1
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2 ISSGGSGTYYSDSVKG 17
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                                                                                                                                                  amino acid
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William J. HARRIS;
                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wolfgang J. RETTIG;
                                                                                                                       unknown
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                                                                                                     protein
                                                                                                                                     unknown
                                         78.7%;
87.5%;
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                            Score 70; DB 3; Pred. No. 0.0096; 1; Mismatches
                                                                                                                                                                                                                                                              LUD 5363.1 DIV. - JEL/NDH/SLH
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Pred. No. 0.0096;
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                                                         Length 119;
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                              Indels
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RESULT 26
US-09-602-709-18
; Sequence 18, Application US/09602709
                                                                                                                              RESULT 27
US-09-602-709-19
; Sequence 19, Application US/09602709
; Patent No. 6348195
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 87.1 Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Wordperfect
CURRENT APPLICATION UNMER: US/09/602,709
PILING DATE: 26-Jun-2000
CLASSIFICATION INFORMATION
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 09/266,119
FILING DATE: -UNKNOWN>
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 130,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
              William J. HARRIS;
Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO: 18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES NUMBER OF SEQUENCES: 31
                                                                                                              APPLICANT: Paul WALLACE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
NUMBER OF SEQUENCES: 31
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|ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 119 amino acids TYPE: amino acid STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 10022
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: unknown
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Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
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                                                                                                                                                                                                                                                                                                                                                               78.7%; Score 70; D
87.5%; Pred. No. 0.
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0.0096;
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Patent No. 6348195
GENERAL INFORMATION:
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Best Local Similarity
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPHONE: 212-888-9894
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: amino acids
TYPE: amino acid
              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
'CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/266,119
FILING DATE: «Unknown»
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: unknown
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Paul WALLACE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 51 ISSGGSYTYYADSVKG 66
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                                                                                                                                                                                                STATE: New York COUNTRY: U.S.A.
                                                                                                                                                                                                                                      STREET: 805 Third Avenue CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                 ZIP: 10022
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Wordperfect
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
Lloyd J. OLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78.7%; Score 70; DB
87.5%; Pred. No. 0.00
tive 1; Mismatches
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US-09-602-709-21
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GENERAL INFORMATION:
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                                                                            TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 21:
                                                                                                                   APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
CLASSIFICATION: <UNKNOWN>
PRIOR APPLICATION DATE:
APPLICATION NUMBER: 09/266,119
FILING DATE: <UNKNOWN>
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: JUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: HANSON, NO. 6348195man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPHONE: 212-838-3884
               SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: unknown
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 20:
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FILING DATE: «Unknown»
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
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STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 119 amino acids TYPE: amino acid STRANDEDNESS: unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 805 Third Avenue
STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Felfe & Lynch
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Pilar GARIN-CHESA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          William J. HARRIS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78.7%; Score 70; DB 3; 87.5%; Pred. No. 0.0096;
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                                                                      Query Match
Best Local S
Matches 14
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Best Local Similarity
Matches 14; Conserv
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Patent No. 6348195
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:

APPLICATION NUMBER: 09/266,119

PILING DATE: (UNknown)

ATTORNEY/AGENT INFORMATION:

NAME: Hanson, No. 6348195man D.

REGISTRATION NUMBER: 30,946

REFERENCE/DOCKET NUMBER: 10D 5363.1 DIV. - JEL/NDH/SLH

TELECOMMUNICATION INFORMATION:

TELEPAX: 212-688-9200

TELEFAX: 212-688-9200

TELEFAX: 212-688-9200

INFORMATION FOR SEQ ID NO: 22:

INFORMATION FOR SEQ ID NO: 22:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Wordperfect CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Paul
                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 78.7%;
l Similarity 87.5%;
l4; Conservative
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                                    2 ISSGGSGTYYSDSVKG 17
                                                                                         Similarity
 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/09/602,709 FILING DATE: 26-Jun-2000 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                                                                                                                  STRANDEDNESS: unknown TOPOLOGY: unknown
                                                                                                                                                                                                                                       LENGTH: 119 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 805 Third Avenue
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                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   William J. HARRIS;
Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
                                                                                       78.7%;
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                                                                      Score 70; DB 3; Length 119; 
pred. No. 0.0096; 
1; Mismatches 1; Indels
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RESULT 31 US-09-602-709-28 ; Sequence 28, Application US/09602709

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US-09-497-997C-31
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Best Local Similarity
Matches 14; Conserv
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                Sequence 31, Application US/09497997C
Patent No. 6635248
                                                                                                                                                                                                                                                                                            SENERAL INFORMATION:
             APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/99/497,997C
CURRENT FILING DATE: 2000-02-04
                                                                                                                                                                                                                                                 APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 212-838-3884 INFORMATION FOR SEQ ID NO: 28:
APPLICATION NUMBER: PCT/FR98/01740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 09/266,119
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: unknown
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 28:
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TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                         51
                                                                                                                                                                                                                                                                                                                                                                                                                                         ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 119 amino acids TYPE: amino acid STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 805 Third Avenue CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 212-688-9200
                                                                                                                   BLONDEL, BRUNO
COUDERC, THERESA
MICHELSON, SUSAN
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MARIE-PRANCOISE
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87.5%;
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Pred. No.
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APPLICANT: ZIPSTO, DONATO

TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO CI
FILE REFERENCE: 0660-0166-OXCONT
CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
SOFTWARE: PATENTIN VETSION 3.1
SEQ ID NO 19
LENCTH. . . .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-497-997C-19
                                                                                                                                                                                                            US-09-497-997C-4
                                                                                                                                                                      Sequence 4, Application US/09497997C Patent No. 6635248
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NUMBER OF SEQ ID NOS: 36
SOFTWARE: PatentIn version 3.1
SEQ ID NO 31
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                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
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Best Local Similarity 76.5%;
                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 19,
                                                                 APPLICANT: TERNYNCK, THERESA
APPLICANT: AVVAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
APPLICANT: AVVAMEAS, STAITIS
APPLICANT: SARON, MARIE-FRANCOISE
                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 21
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 17
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: SYNTHETIC PEPTIDE
                                                                                                                                                                                                                                                                                                                                                13; Conservative
                                                                                                                                                                                                                                                                                                   1 YISSGGSGTYYSDSVKG 17
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BLONDEL, BRUNO
COUDERC, THERESA
MICHELSON, SUSAN
ZIPETO, DONATO
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BUTTIN, GERARD
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                                                                                                                                                                                                                                                                                                                                                                   77.5%;
76.5%;
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Pred. No. 0.0023;
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Pred. No.
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FILE REFERENCE: 0660-0166-0XCONT; CURRENT APPLICATION NUMBER: US/09/497,997C; CURRENT FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 22
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                                                                                                                           RESULT 36
US-09-336-093-4
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Sequence 4, Application US/09336093A
Patent No. 6348185
GENERAL INFORMATION:
APPLICANT: Washington University School of Medicine
TITLE OF INVENTION: MEMBRANE-PERMEANT PEPTIDE COMPLEXES FOR MEDICAL
TITLE OF INVENTION: IMAGING, DIAGNOSTICS, AND PHARMACEUTICAL THERAPY
FILE REFERENCE: WSHU 2001
                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn version 3.1
SEQ ID NO 20
LENGTH: 22
TYPE: PRT
                                                                                                                                                                                                                                                                       Matches
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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Best Local Similarity
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APPLICANT:
APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                          Local Similarity
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AVRAMEAS, ALL.
CTRAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AVRAMEAS, STRAITIS SARON, MARIE-FRANCOISE
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76.5%;
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Pred. No.
                                                                                                                                                                                                                                                                    Pred. No. 0.00
1; Mismatches
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Sequence 4, Application US/09557465D

Sequence 4, Application US/09557465D

Patent No. 6589503

GENERAL INFORMATION:

APPLICANT: Washington University

APPLICANT: Piwnica-Worms, David

TITLE OF INVENTION: MEMBRANE-PERMEANT PEPTIDE COP

TITLE OF INVENTION: PHARWACEUTICAL THERAPY

FILE REFERENCE: WSHU 2020

CURRENT PILING DATE: 2000-04-25

PRIOR APPLICATION NUMBER: US/09/557,465D

CURRENT FILING DATE: 2000-04-25

PRIOR APPLICATION NUMBER: US 09/336,093

PRIOR APPLICATION NUMBER: US 09/090,087

PRIOR FILING DATE: 1999-06-18

PRIOR FILING DATE: 1998-06-20

NUMBER OF SEQ ID NOS: 3

SOFTWARE: PATENTIN VERSION 3.1

SEQ ID NO 4

LENGTH: 30

TYPE: PRI

DECANISM. Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: peptide
; OTHER INFORMATION: derivable from the heavy chain variable reagion
; OTHER INFORMATION: an anit-DNA monoclonal antibody
US-09-336-093-4
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                                                                                                                                                         RESULT 38
US-09-497-997C-7
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Best Local S
Matches 13
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LENGTH: 30
TYPE: PRT
                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 13
                GENERAL INFORMATION:
APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
APPLICANT: AVRAMEAS, STRAITIS
                                                                                                                Sequence 7, Application US/09497997C Patent No. 6635248
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CURRENT FILING DATE: 1999-06-18
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: peptide derivable from the heavy chain variable region of an OTHER INFORMATION: -DNA monoclonal antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Artificial sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                    1 YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                    Similarity 76.!
13; Conservative
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AVRAMEAS, ALEXANDRE
BUTTIN, GERARD
AVRAMEAS, STRAITIS
SARON, MARIE-FRANCOISE
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                                                                                                                                                                                                                                                                                                                                      Score 69;
Pred. No.
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Pred. No.
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0.0033;
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APPLICANT: APPLICANT: APPLICANT:

BRUNO

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; OTHER INFORMATION: Artificially synthesized peptide sequence
US-09-720-003C-5
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US-09-720-003C-5
                                                                                                                                 RESULT 40
US-09-497-997C-9
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SEQ ID NO 5
LENCTH: 30
TYPE: PRT
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                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                       Matches
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
-09-497-997C-7
                                                                                       Sequence 9, Application US/09497997C Patent No. 6635248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/720,003C CURRENT FILING DATE: 2001-09-04 PRIOR APPLICATION NUMBER: PCT/JP99/03272 PRIOR FILING DATE: 1999-06-18 PRIOR APPLICATION NUMBER: JP 10-189845 PRIOR APPLICATION NUMBER: JP 10-189845 PRIOR FILING DATE: 1998-06-18
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APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Hasegawa, Mamoru
APPLICANT: Nakanishi, Mahito
TITLE OF INVENTION: Nucleic Acid Transfer Phage
FILE REFERENCE: 50026/026001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NPPLICANT: Akuta, Teruo
NPPLICANT: Yokoi, Haruhiko
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              / Match 77.5%; Score 69; Local Similarity 76.5%; Pred. No. 1988 13; Conservative 1; Mismatc
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No. 6740524
                                                                                                                                                                                                                                                                                                       13;
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YISRGGVSTYYSDTVKG
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Takeda, Katsuo
                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                    77.5*; Score 69; DB 4; Length 30; 76.5*; Pred. No. 0.0033; Indels
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Search completed: December 17, 2004, 18:32:07 Job time : 10.3146 secs

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NUMBER OF SEQ ID NOS: 36
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 9
; LENGTH: 31
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-497-997C-9
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                          Ś
                                                              Query Match
Best Local Similarity 76.5
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                            APPLICANT: ZIPETO, DÓNATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO CI
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: PCT/FR98/01740 PRIOR FILING DATE: 1998-08-04
                              YISSGSSTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AVRAMEAS, STRAITIS
SARON, MARIE-FRANCOISE
                                                                                                                                                                                                                                                                                                                                                                                                                BLONDEL, BRUNO
COUDERC, THERESA
MICHELSON, SUSAN
                                                                                77.5%;
20
                                                                                  Score 69;
Pred. No.
                                                                Mismatches
                                                                                    DB 4;
                                                                                                Length 31
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Database :
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
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Published Applications AA:*

1: /cgn2=6/ptodata/2/pubpaa/US07 PUBCOMB.pep:*

2: /cgn2=6/ptodate/2/pubpaa/US06 NEW PUB.pep:*

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19: /cgn2=6/ptodate/2/pubpaa/US10 PUBCOMB.pep:*
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Gapop 10.0 , Gapext 0.5
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89
1 YISSGGSGTYYSDSVKG 17
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185.159 Million cell updates/sec
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	13	12	11	10	9	80	7	6	5	4	ω	2	_	Result
	72	72	72	72	72	73	74	82	82	82	89	89	89	Score
	80.9	80.9	80.9	80.9	80.9	82.0	83.1	92.1	92.1	92.1	100.0	100.0	100.0	Query Match Length
	240	237	237	237	237	120	240	130	130	130	130	130	130	Length
	10	14	14	10	10	15	16	14	14	ø	14	14	9	BG
	US-09-880-748-1905	US-10-293-418-2039	US-10-293-418-1906	US-09-880-748-2039	US-09-880-748-1906	US-10-383-447-6	US-10-779-461-23	US-10-166-626-8	US-10-265-713-8	US-09-764-304-8	US-10-166-626-18	US-10-265-713-18	US-09-764-304-18	ID
•	Sequence 1905, Ap	Sequence 2039, Ap	Sequence 1906, Ap	Sequence 2039, Ap	Sequence 1906, Ap	Sequence 6, Appli	Sequence 23, Appl	Seguence 8, Appli	Sequence 8, Appli	Sequence 8, Appli		Sequence 18, Appl	Sequence 18, Appl	Description,

ALIGNMENTS

CURRENT APPLICATION NUMBER: US/09/764,304 CURRENT FILING DATE: 2001-01-19 EARLIER APPLICATION NUMBER: 09/225,322 EARLIER FILING DATE: 1999-01-05 EARLIER FILING DATE: 1999-01-05 EARLIER FILING DATE: 1995-03-21 EARLIER FILING DATE: 1995-03-21 EARLIER APPLICATION NUMBER: US 08/408,133 EARLIER FILING DATE: 1995-03-21 EARLIER FILING DATE: 1994-08-17 EARLIER FILING DATE: 1994-08-17 EARLIER FILING DATE: 1994-08-17 EARLIER FILING DATE: 1992-09-17/674 EARLIER FILING DATE: 1992-09-17 EARLIER APPLICATION NUMBER: US/07/947,674 EARLIER FILING DATE: 1991-09-18 SOFTWARE: PATENTIN US/07-18 SOFTWARE: PATENTIN US/07-18 COTAR INFORMATION: CDNA KM-641 US-09-764-304-18	RESULT 1 US-09-764-304-18. Sequence 18, Application US/09764304 Patent No. US20020026036A1 GENERAL INFORMATION: APPLICANT: HANAI, NOBUO APPLICANT: HANAI, NOBUO APPLICANT: HASEGAMA, MAMORU APPLICANT: HASEGAMA, MAMORU APPLICANT: KUMANI, HIROMASA APPLICANT: KUMANI, YOSHIHISA TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
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Query Match

DB 9;

Length 130;

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APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1999-01-05
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR PILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/408,138
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US-10-265-713-18
                                                                                                                                                                                                                                                                                                                     Sequence 18, Application US/101
Publication No. US20030166876A1
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Publication No. US20030095964A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
APPLICANT: HASEGÁWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILLING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR PILING DATE: 1999-01-05
PRIOR PPLICATION NUMBER: US/09/245,680
PRIOR APPLICATION NUMBER: US/09/246,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: UP 3-238375
PRIOR FILING DATE: 1991-09-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 19
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17; Conserv
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Pred. No.
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US-10-166-626-18
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US-09-764-304-8
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Best Local S
Matches 17
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Patent No. US20020026036A1
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
                                                                                                                                                                                                                                                        EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Ver.
SEQ ID NO 18
                                                                        Matches
                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                   EARLIER APPLICATION NUMBER: US 08/454,680 EARLIER FILING DATE: 1995-05-31 EARLIER FILING DATE: 1995-03-21 EARLIER FILING DATE: 1995-03-21 EARLIER FILING DATE: 1995-03-21 EARLIER APPLICATION NUMBER: US 08/292,178 EARLIER APPLICATION NUMBER: US 07/947,674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
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PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
                                                                                                                                                                                                                                                                                                                                   EARLIER FILING DATE: 1992-09-17 EARLIER APPLICATION NUMBER: JP
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                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                     ORGANISM: Artificial Sequence
                                                                                                                                                                                                                      TYPE: PRT
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                                                                                                                                                                  OTHER INFORMATION: cDNA KM-641
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APPLICATION NUMBER: JP 3-238375
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61 ISSGGSGTYYSDSVKG 76
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                                    ISSGGSGTYYSDSVKG 17
                                                                    Conservative
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                                                                                        92.1%; Score 82; 100.0%; Pred. No.
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Pred. No. 8.1e-05;
; Mismatches 0;
                                                                        Mismatches
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0.00077;
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                                                                                                           Length 130;
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RESULT 5 US-10-265-713-8

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PRIOR PELLIATION NUMBER: US /09/225,322
PRIOR PELLING DATE: 1999-01-05
PRIOR PELLING DATE: 1995-05-31
PRIOR PELLING DATE: 1995-05-31
PRIOR PELLING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR PELLING DATE: 1995-03-21
PRIOR PELLING DATE: 1994-08-17
PRIOR PELLING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR APPLICATION NUMBER: US08/222,178
PRIOR APPLICATION NUMBER: US08/2
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US-10-265-713-8
                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR PILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR PILING DATE: 1994-08-17
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Publication No. US20030095964A1
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Best Local Similarity
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PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: UP 3-238375
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
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CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
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HASEGAWA, MAMORU
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KUWANA, YOSHIHISA
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                        APPLICANT: Powers, David
TITLE OF INVENTION: Antibodies Against Cancer Antigen TMEFF2 and Uses Thereof
FILE REFERENCE: 05802.018.NPUS00
CURRENT APPLICATION NUMBER: US/10/383,447
CURRENT FILING DATE: 2002-03-07
PRIOR APPLICATION NUMBER: US 60/362,837
PRIOR APPLICATION NUMBER: US 60/362,837
PRIOR PILING DATE: 2002-03-08
PRIOR PPLICATION NUMBER: US 60/463,812
PRIOR FILING DATE: 2002-12-27
NUMBER OF SEQ ID NOS: 34
SOFTWARE: Patentin version 3.2
SEQ ID NO 6
LENGTH: 120
TYPE: NEW
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PRIOR FILING DATE: 2003-02-13
NUMBER OF SEQ ID NOS: 161
SOPTWARE: Patentin version 3.2
SEQ ID NO 23
LENGTH: 240
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Best Local Similarity
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Best Local (
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TITLE OF INVENTION: ANTIBODIES TO C-MET FOR
FILE REFERENCE: 00980/1
CURRENT APPLICATION NUMBER: US/10/779,461
CURRENT FILING DATE: 2004-02-13
                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Bhaskar, Vinay
APPLICANT: de la Calle, Agustin
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ORGANISM: artificial
FEATURE:
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ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641
ORGANISM: Artificial
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                                                                                                                                                                                                                                                                                                                                         Law, Debbie
                                                                                                                                                                                                                                                                  Murray, Richard
Afar, Daniel
                                                                                                                                                                                                                                                                                                                       Caras, Ingrid
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                                                                                                                                                                                                                                                                                                      Ramakrishnan, Vanitha
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Pred. No.
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APPLICANT: RUBEN et al.

APPLICANT: RUBEN et al.

FILE OF INVENTION: Antibodies that Immunospecifically Bind BLyS

FILE REFERENCE: PF523

CURRENT APPLICATION NUMBER: US/09/880,748

CURRENT FILING DATE: 2001-06-15

PRIOR PFLICATION NUMBER: 60/212,210

PRIOR PRIOR APPLICATION NUMBER: 60/240,816

PRIOR FILING DATE: 2000-10-17

PRIOR FILING DATE: 2000-10-17

PRIOR APPLICATION NUMBER: 60/276,248

PRIOR FILING DATE: 2001-03-26

PRIOR APPLICATION NUMBER: 60/277,379

PRIOR APPLICATION NUMBER: 60/277,379

PRIOR APPLICATION NUMBER: 60/277,379

PRIOR APPLICATION NUMBER: 60/277,379

PRIOR FILING DATE: 2001-03-21

PRIOR FILING DATE: 2001-03-21

PRIOR FILING DATE: 2001-03-21

PRIOR FILING DATE: 2001-05-25

PRIOR FILING DATE: 2001-05-25
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; OTHER INFORMATION: Heavy chain variable region
US-10-383-447-6
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US-09-880-748-1906
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PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-03-21
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PRIOR FILING DATE: 2001-05-25
NUMBER OF SEQ ID NOS: 3239
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1906
LENGTH: 237
                                                                                                                                                                                                                                                                                                                                                                        Sequence 2039, Application US/09880748 Publication No. US20030059937A1 GENERAL INFORMATION:
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Best Local Similarity
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CURRENT FILING DATE: 2001-06-15
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TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523
                    NUMBER OF SEQ ID NOS: 3239
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PatentIn Ver. 2.0
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82.4%; Pred. No.
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                                                 Sequence 2039, Application US/10293418
Publication No. US20030223996A1
GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523P2
CURRENT APPLICATION NUMBER: US/10/293,418
CURRENT FILING DATE: 2002-11-27
PRIOR APPLICATION NUMBER: 60/331,469
PRIOR APPLICATION NUMBER: 60/340,817
PRIOR APPLICATION NUMBER: 60/340,817
PRIOR FILING DATE: 2001-12-19
PRIOR FILING DATE: 2001-12-19
PRIOR FILING DATE: 2001-12-19
PRIOR FILING DATE: 2001-12-19
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SEQ ID NO 1906
LENGTH: 237
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Publication No. US20
GENERAL INFORMATION:
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/10/293,418
CURRENT FILING DATE: 2002-11-27
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PRIOR APPLICATION NUMBER: 60/340,817
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/212,210
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FILING DATE: 2001-06-15
APPLICATION NUMBER: 60/293,499
FILING DATE: 2001-05-25
APPLICATION NUMBER: 09/880,748 FILING DATE: 2001-06-15 APPLICATION NUMBER: 60/293,499
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APPLICATION NUMBER: 60/240,816
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NOS: 3247
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Pred. No.
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Pred. No. 0
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0.035;
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GENERAL INFORMATION.

APPLICANT: Ruben et al.

FILE REFERENCE: PF523

CURRENT APPLICATION NUMBER: US/09/880,748

CURRENT APPLICATION NUMBER: 00/212,210

PRIOR APPLICATION NUMBER: 60/212,210

PRIOR APPLICATION NUMBER: 60/240,816

PRIOR APPLICATION NUMBER: 60/240,816

PRIOR APPLICATION NUMBER: 60/276,248

PRIOR FILING DATE: 2000-10-17

PRIOR FILING DATE: 2001-03-16

PRIOR FILING DATE: 2001-03-16

PRIOR FILING DATE: 2001-03-21

PRIOR APPLICATION NUMBER: 60/293,499

PRIOR APPLICATION NUMBER: 60/293,499

PRIOR APPLICATION NUMBER: 60/293,499

PRIOR FILING DATE: 2001-05-25

NUMBER OF SEQ ID NOS: 3239

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 1905

LENGTH: 240
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PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR PILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-16
NUMBER OF SEQ ID NOS: 3247
SEQ ID NO 2039
LENGTH: 237
TYPE: PRT
ORGANISM: Homo sapiens
US-10-293-418-2039
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US-09-880-748-1905
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US-09-880-748-1905
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US-10-293-418-1905
Sequence 1905, Application US/10293418
Publication No. US20030223996A1
GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523P2
CURRENT APPLICATION NUMBER: US/10/293,418
CURRENT FILING DATE: 2002-11-27
PRIOR APPLICATION NUMBER: 60/331,469
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Best Local :
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Local Similarity 82.4%;
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82.4%; Pred. No.
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RESULT 16 US-10-460-471-31

Sequence 31, Application US/10460471 Publication No. US20030206900A1 GENERAL INFORMATION:

APPLICANT: TERNYNCK, THERESA APPLICANT: AVRAMEAS, ALEXANDRE APPLICANT: BUTTIN, GERARD

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                                                                                                                                                      ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-447-331-4
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US-10-293-418-1905
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
                                                                                                                                                                                                          PRIOR FILING DATE: 1999-03-01
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4, Application US/10447331 Publication No. US20030219434A1 GENERAL INFORMATION:
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SEQ ID NO 1905
LENGTH: 240
                                                                             Matches
                                                                                           Query Match
Best Local Similarity
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Best Local
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APPLICANT: Ridgway, John B.
TITLE OF INVENTION: ANTIBODIES FOR CANCER THERAPY AND
TITLE OF INVENTION: DIAGNOSIS
FILE REFERENCE: GENENT.122A
CURRENT APPLICATION NUMBER: US/10/447,331
CURRENT FILING DATE: 2003-05-28
PRIOR APPLICATION NUMBER: US/09/515,825
PRIOR APPLICATION NUMBER: 60/122262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-16
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COR APPLICATION NUMBER: 60/340,817

COR FILING DATE: 2001-12-19

COR PELLING DATE: 2001-06-15

COR PELLING DATE: 2001-06-15

COR PELLING DATE: 2001-05-25

COR APPLICATION NUMBER: 60/27,379

COR PELLING DATE: 2001-03-21

COR PELLING DATE: 2001-03-21

COR PELLING DATE: 2001-03-16

COR APPLICATION NUMBER: 60/276,248

COR APPLICATION NUMBER: 60/276,248

COR APPLICATION NUMBER: 60/276,248
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51 INSGGSYTYYSDSVKG 66
                                                                             14; Conservative
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                                      2 ISSGGSGTYYSDSVKG 17
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87.5%;
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                                                                                             Score 70; DB 14;
Pred. No. 0.034;
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Pred. No.
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0.036;
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US-10-460-471-19
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                                                                                                                                                                                                                                                               SOFTWARE: PatentIn version 3.1
SEQ ID NO 19
LENGTH: 21
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SEQ ID NO 31
LENGTH: 17
TYPE: PRT
                                                                               Matches
                                                                                              Query Match
Best Local
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TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR PILING DATE: 2000-02-04
PRIOR PILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR PILING DATE: 1998-08-04
NUMBER: OF SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF TEXT TO NUMBER: PCT/FR98/01740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
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APPLICANT: AVRAMEAS, ALEXANI
APPLICANT: BUTTIN, GERARD
APPLICANT: AVRAMEAS, STRAIT
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TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
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OTHER INFORMATION: SYNTHETIC PEPTIDE
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                                    1 YISSGGSGTYYSDSVKG 17
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Similarity 76.5%;
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YISRGGVSTYYSDTVKG 19
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COUDERC, THERESA
MICHELSON, SUSAN
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COUDERC, THERESA
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                                                                             Conservative
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                                                                                              Score 69; I
Pred. No. 0.
                                                                               Mismatches
                                                                                              DB 14;
0.0083;
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APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
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US-10-460-471-20
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PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
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                                                                                                                     SOFTWARE: POSEQ ID NO 20
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Best Local Similarity
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APPLICANT: COUDERC, THERESA
APPLICANT: COUDERC, THERESA
APPLICANT: ZIPETO, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT FAPPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
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                                                                             LENGTH: 22
TYPE: PRT
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ORGANISM: Artificial Sequence
FEATURE:
                                      ORGANISM: Artificial Sequence FEATURE:
                     OTHER INFORMATION: SYNTHETIC PEPTIDE
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No. US20030206900A1
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Pred. No. 0.0087
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                                                                                                                                                                         FILE REFERENCE: MBHB 02-340
CURRENT APPLICATION NUMBER: US/10/144,549
CURRENT FILING DATE: 2002-05-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin version 3.1
SEQ ID NO 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
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Publication No. US20030211590A1
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TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR PILING DATE: 1998-08-04
NUMBER: OF SEQ ID NOS: 36
NUMBER: OF SEQ ID NOS: 36
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Publication No. US20030206900A1
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APPLICANT: AVRAMEAS, ALEXANI
APPLICANT: BUTTIN, GERARD
                                                                                                                                                                                                                                                                                      APPLICANT: Hwu , Paul L,
TITLE OF INVENTION: A NEW FUSION PROTEIN FOR USE AS VECTOR
                                                                                                                                                                                                                                                                                                                     APPLICANT: GeneShuttle Biopharm, Inc. APPLICANT: Hwu , Paul L.
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TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                        LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: MISC FEATURE
OTHER INFORMATION: Synthetic membrane fusion sequence
                                                                  FEATURE:
OTHER INFORMATION: Membrane fusion sequence
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COUDERC, THERESA
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76.5%;
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0.012;
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US-10-374-035-4
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Publication No. US20030219378A1
GENERAL INFORMATION:
APPLICANT: Washington University, St. Louis
APPLICANT: Piwnica-Worms, David
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Best Local S
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Best Local Similarity
Matches 13; Conserv
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Publication No.
                                                                                               PRIOR FILING DATE: 2003-02-18
PRIOR APPLICATION NUMBER: US 09/557,465
PRIOR FILING DATE: 2000-04-25
PRIOR APPLICATION NUMBER: US 09/336,093
PRIOR FILING DATE: 1999-06-18
PRIOR APPLICATION NUMBER: US 60/090,087
PRIOR FILING DATE: 1998-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 09/557,465
PRIOR FILING DATE: 2000-04-25
PRIOR APPLICATION NUMBER: US 09/336,093
PRIOR FILING DATE: 1999-06-20
PRIOR APPLICATION NUMBER: US 60/090,087
PRIOR FILING DATE: 1998-06-20
                                                                                                                                                                                                                                            CURRENT FILING DATE: 2003-02-25
PRIOR APPLICATION NUMBER: US 10/368,280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/10/368,280 CURRENT FILING DATE: 2003-02-18
                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/10/374,035
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SOFTWARE: PatentIn version 3.1
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TITLE OF INVENTION: MEMBRANE-PERMEANT PEPTIDE
TITLE OF INVENTION: PHARMACEUTICAL THERAPY
                                                                                NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: 60005161-0022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Washington University, St. Louis APPLICANT: Piwnica-Worms, David
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                                                                                                                                                                                                                                                                                                               ILE REFERENCE: 09789280-0006
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TYPE: PRT
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                     ENGTH:
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                                                            PatentIn
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Pred. No.
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; OTHER INFORMATION: SYNTHETIC PEPTIDE
US-10-460-471-9
                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDR
APPLICANT: AVRAMEAS, STRAD
APPLICANT: AVRAMEAS, STRAD
APPLICANT: SAVRAMEAS, STRAD
APPLICANT: SARON, MARIE-FRANC
APPLICANT: BLONDEL, BRUNO
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GENERAL INFORMATION:
APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
APPLICANT: AVRAMEAS, STRAITIS
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LENGTH: 31
TYPE: PRT
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Matches
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Best Local
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CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
APPLICANT: BLONDEL, BRUNO
APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
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APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-OXCONT
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                                                                                                                                                                                                                                                                               AVRAMEAS, STRAITIS SARON, MARIE-FRANCOISE
                                                                                                                                                                                                                                                                                                                                                         AVRAMEAS, ALEXANDRE BUTTIN, GERARD
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COUDERC, THERESA
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1; Mismatches
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Pred. No.
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. 0.012;
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US-10-460-471-26
Sequence 26, Application US/10460471
Publication No. US20030206900A1
GENERAL INFORMATION:
APPLICANT: TERNYNCK, THERESA
APPLICANT: APPLICANT: APPLICANT: APPLICANT: GERAMBAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
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; OTHER INFORMATION: SYNTHETIC PEPTIDE
US-10-460-471-23
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                                                                                                                                                                                                                                        RESULT 27
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CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILLING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILLING DATE: 2000-02-04
PRIOR FILING DATE: 1998-08-04
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
NUMBER OF SEQ ID NOS: 36
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PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
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APPLICANT: COUDERC, THERESA
APPLICANT: MICHESON, SUSAN
APPLICANT: ZIPETO, DONATO
APPLICANT: ZIPE
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ORGANISM: Artificial Sequence
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Pred. No.
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Pred. No.
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US-09-892-613C-2
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US-09-892-613C-2
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              Sequence 4, Application US/10006773
Publication No. US20020132983A1
GENERAL INFORMATION:
APPLICANT: Junghans, Richard P.
TITLE OF INVENTION: Antibodies as Chimeric Effector Cell Receptors Against Tumor.
FILE REFERENCE: 003
CURRENT APPLICATION NUMBER: US/10/006,773
CURRENT FILING DATE: 2000-12-10
PRIOR APPLICATION UNMBER: 607250,089
PRIOR FILING DATE: 2000-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/09892613C
Publication No. US20030040608A1
GENERAL INFORMATION:
APPLICANT: Leung, Shawn Shui-on
TITLE OF INVENTION: REDUCING IMMUNOGENICITIES OF IMMUNOGLOBULINS BY FRAMEWORK-PATCHIN
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SEQ ID NO 26
LENGTH: 107
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TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR PELING DATE: 2000-02-04
PRIOR PILING DATE: 2000-02-04
PRIOR PILING DATE: 2000-08-04
PRIOR FILING DATE: 1998-08-04
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TYPE: PRT
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SEQ ID NOS:
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Pred. No.
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US-10-275-180A-26
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GENERAL INFORMATION:
APPITCANT. ...
                                                                                  Sequence 26, Application US/10275180A Publication No. US20030190687A1 GENERAL INFORMATION:
APPLICANT: The UAB Research Foundation
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SEQ ID NO 4
LENGTH: 140
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/10/281,479A
CURRENT FILING DATE: 2003-01-28
                                                       APPLICANT:
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PRIOR FILING DATE: 2001-05-02
PRIOR APPLICATION NUMBER: 60/201,344
PRIOR FILING DATE: 2000-05-02
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PRIOR FILING DATE: 2002-06-24
PRIOR APPLICATION NUMBER: 60/346,402
PRIOR FILING DATE: 2001-11-01
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ORGANISM: Mus
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Ichikawa, Kimihisa
Kimberly, Robert P.
Koopman, William J.
Koopman, AN ANTIBODY SELECTIVE FOR A TUMOR NECROSIS FACTOR-RELATED APOPTOSI
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Kimberly, Robert P
                                                                      Zhou, Tong
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                                   . 0093 ;
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OR AND OTHER THER!
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TITLE OF INVENTION: AN

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; OTHER INFORMATION: Description of Artificial Sequence:/No. US20030190687Ale; OTHER INFORMATION: Synthetic Construct US-10-275-180A-26
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US-10-477-377-9
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US-10-286-132A-26
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Sequence 9, Application US/10477377
Sequence 9, Application No. US20040213788A1
GENERAL INFORMATION:
APPLICANT: Sweet, Raymond
APPLICANT: Tornetta, Mark
APPLICANT: Wattam, Trevor
TITLE OF INVENTION: Anti-RANK Ligand Monoclonal Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: INDUCING LIGAND RECEPTOR AND USES THEREOF FILE REFERENCE: 21085.0029U5
CURRENT FLILICATION NUMBER: US/10/275,180A
CURRENT FILING DATE: 2002-10-31
NUMBER OF SEQ ID NOS: 102
SOFTWARE: Patentin version 3.0
SEQ ID NO 26
LENGTH: 17
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn version 3.0 SEQ ID NO 26
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Best Local 9
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APPLICANT: LOBUGIO, Albert S.
APPLICANT: LOBUGIO, Albert S.
APPLICANT: Buchabaum, Donald J.
TITLE OF INVENTION: AN ANTIBODY SELECTIVE FOR A TUMOR NECROSIS FACTOR-RELATED
TITLE OF INVENTION: APOPTOSIS-INDUCING LIGAND RECEPTOR AND USES THEREOF
FILE REPERENCE: 21085.0029U7
CURRENT APPLICATION NUMBER: US/10/286,132A
CURRENT FILING DATE: 2003-01-22
CURRENT FILING DATE: 2003-01-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 60/346,402
PRIOR FILING DATE: 2001-11-01
PRIOR APPLICATION NUMBER: PCT/US01/14151
PRIOR FILING DATE: 2001-05-02
PRIOR FILING DATE: 2001-05-02
PRIOR APPLICATION NUMBER: US 60/201,344
PRIOR FILING DATE: 2000-05-02
PRIOR FILING DATE: 2000-05-02
NUMBER OF SEQ ID NOS: 102
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APPLICANT: Kimb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT ORGANISM: artificial sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Description of Artificial Sequence:/No. US20030198637A1e = Synthe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
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Koopman, William J.
LoBuglio, Albert S.
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87.5%;
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Pred. No.
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US-10-766-773-53

Sequence 53, Application US/10766773 Publication No. US20040126851A1 GENERAL INFORMATION:

APPLICANT: LaRosa, G APPLICANT: Horvath,

Gregory J. h, Christopher

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APPLICANT: Newman, Walter
APPLICANT: Office, S. Tarran
APPLICANT: OTRIEN, SIODAN H.
APPLICANT: O'Keefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: HUMANIZED ANTI-CCR2
CURRENT APPLICATION NUMBER: US/09/840,459
CURRENT FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR FILING DATE: 2001-02-03
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/359,193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; LENGTH: 17
; TYPE: PRT
; ORGANISM: Mus musculus
US-10-477-377-9
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RESULT 35
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Best Local S
Matches 14
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 53
LENGTH: 87
                                                                                                                                                           Matches
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Patent No. US20020150576A1
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Best Local
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CURRENT APPLICATION NUMBER: US/10/477,377

CURRENT FILING DATE: 2003-11-12

PRIOR APPLICATION NUMBER: PCT/US02/14246

PRIOR FILING DATE: 2002-05-03

PRIOR FILING DATE: 2002-05-03

PRIOR APPLICATION NUMBER: 60/292,031

PRIOR FILING DATE: 2001-05-18

NUMBER OF SEQ ID NOS: 18

SOFTWARE: FastSEQ for Windows Version 3.0
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                                                                                                                                                                                                                                                                          ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                                  TYPE: PRT
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Similarity 87.5%;
14; Conservative
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                                                                  YISNGGGSTYYPDTVKG
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                                                                                                                                                                                 Score 68;
Pred. No.
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Pred. No.
                                                                                                                                                           Mismatches
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                                                                                                                                                                                                        Length 87;
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APPLICANT: LARGEA, Gregory J.
APPLICANT: Horvath, Christopher
APPLICANT: Newman, Walter
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Keefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855.1052-029
CURRENT APPLICATION UNMBER: US/10/766,610
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: 09/840,459
PRIOR APPLICATION NUMBER: 09/840,459
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR FILING DATE: 2000-02-03
PRIOR FILING DATE: 1999-07-23
PRIOR APPLICATION NUMBER: 09/121,781
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APPLICANT: Jones, S. Tarran
APPLICANT: O'Reien, Siohan H.
APPLICANT: O'Reien, Siohan H.
APPLICANT: O'Reefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855-1052-028
CURRENT APPLICATION NUMBER: US/10/766,773
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR FILING DATE: 1909-07-23
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
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US-10-766-610-53
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 53
LENGTH: 87
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SOFTWARE: FREUSEQ for Windows Version 3.0
SEQ ID NO 53
LENGTH: 87
TYPE: PRT
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Best Local Similarity 70.6%;
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Best Local Similarity
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1 YISSGSSTYYSDSVKG 17 |||:|| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:||| ||:|||| ||:||||:||||:||||:||||:||||:||||:||||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:||:||:||:||:||:||:||:|||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||:||
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                                                                                                                                                                                            Conservative
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Pred. No. 0.
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CURRENT APPLICATION NUMBER: US/10/733,563
CURRENT FILING DATE: 2003-12-10
PRIOR APPLICATION NUMBER: US 10/272,899
PRIOR FILING DATE: 2002-00-17
PRIOR APPLICATION NUMBER: US 60/392,364
PRIOR FILING DATE: 2002-06-26
PRIOR FILING DATE: 2001-06-26
PRIOR FILING DATE: 2001-10-19
NUMBER OF SEQ ID NOS: 122
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 53
LENGTH: 87
TYPE: PRI

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APPLICANT: Newman, Walter
APPLICANT: Newman, Walter
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Reefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: WETHODS OF USE THEREFOR
FILE REFERENCE: 1855, 1052-012
CURRENT FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: DY/497,625
PRIOR APPLICATION NUMBER: DY/497,625
PRIOR APPLICATION NUMBER: 09/497,625
                                                                                                                                                                                            ; ORGANISM: Mus musculus US-09-840-459-49
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Publication No. US20040151721A1
GENERAL INFORMATION:
APPLICANT: O'Keefe, Thereba
APPLICANT: Ponath, Paul
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: METHODS OF USE THEREOF
FILE REFERENCE: 10448-213001
                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 107
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 49
Query Match 76.4%;
Best Local Similarity 87.5%;
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 49, Application US/09840459 Patent No. US20020150576A1
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                                                                                                                                                                                                                                                                                   TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                           LENGTH: 89
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2; Mismatc
Score 68; DB 9; Pred. No. 0.048; 0; Mismatches
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0.047;
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ISSGGSGTYYSDSVKG 17

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CURRENT APPLICATION NUMBER: US/10/766,773
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR FILING DATE: 199-07-22
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
NUMBER OF SEQ ID NOS: 106
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 49
LENGTH: 89
TYPE: PAT
ORGANISM: Mus musculus
US-10-766-773-49
                                                                  Sequence 49, Application US/10766610
Publication No. US20040132980A1
GENERAL INFORMATION:
APPLICANT: LAROSA, Gregory J.
APPLICANT: Horvath, Christopher
APPLICANT: Jones, S. Tarran
APPLICANT: O'Refe, Theresa
APPLICANT: O'Keefe, Theresa
APPLICANT: O'Keefe, Theresa
ITILE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855.1052-029
CURRENT APPLICATION NUMBER: US/10/766,610
FUNCATION NUMBER: 09/40,459
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-22
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
IPRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
IPRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
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US-10-766-773-49
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NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ for
SEQ ID NO 49
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Best Local S
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APPLICANT: Horvath, Christopher
APPLICANT: Newman, Walter
APPLICANT: Jones, S. Tarran
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Keefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855, 1052-028
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                              FastSEQ for Windows Version 3.0
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Minimum
                                                                  Database :
                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
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                                                                                                                                                                                                                                                     Searched:
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Perfect score:
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                                                                                                                                                                   88
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seq length: 2000000000
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89
PIR_79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                 283416 segs, 96216763 residues
                                                                                                                                                                                                                                                                                  Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyright
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244.665 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

					00:2:2:2:00	
Result No.	Score	Query Match	Length I	BOB	ID	Description
1	74		111	νį	PH1007	Ig heavy chain V r
2	71	79.8	83	N	59	avy chain v
w	71	•	113	N	S26468	heavy
4	71	•	117	_	MS3	heavy chain pr
v	83	•	83	N	C25913	heavy chain V
თ	68	76.4	94	N	S14580	heavy chain V
7	89	٠	102	N	S14581	heavy chain V
œ	68	٠	106	N	PH1008	heavy chain V
9	89	76.4	108	N	S24251	heavy chain V
10	68		108	N	PH1010	heavy chain
11	68	76.4	117	, 1	HVMS84	heavy chain pr
7.2	0 0		118) K	PHU097	neavy chain v
14	60	76.4	120	ν:	\$55537	Ig heavy chain V r
15	68		120	N	855536	heavy chain V
16	68	•	122	N	88	heavy chain V
17	67		108	N	-	heavy chain V
18	67		118	N	*	heavy chain V
19	67	75.3	138	N	S09258	heavy chain
20	66	•	97	N	u	heavy chain V
21	66		98	Ŋ	w	heavy chain V
22	66		98	N	w	heavy chain V
23	66	4.	110	N	PH1652	heavy chain V
24	66	4	114	N	S31120	heavy chain -
25	66		118	N	S31105	heavy chain (s
26	66	٠.	119	N	D27889	heavy chain V
27	66	٠.	128	N	S26790	heavy
28	66	4.	137	N	I47193	heavy chain va
29	65	'n	118	N	S00700	heavy chain V

65 73.0 121 2 127887 1g heavy 65 73.0 123 2 853597 1g heavy 65 73.0 124 2 C27888 1g heavy 65 73.0 213 2 S68213 1g heavy 65 73.0 548 2 S38864 1g heavy 65 73.0 548 2 S38864 1g heavy 64 71.9 97 2 PHO875 1g heavy 64 71.9 101 2 C27889 1g heavy 64 71.9 119 2 B27889 1g heavy 64 71.9 119 2 B27889 1g heavy 64 71.9 119 2 B27888 1g heavy 64 71.9 121 2 A27888 1g heavy 64 71.9 121 2 B26471 1g heavy 63 70.8 135 2 B26471 1g heavy 63 70.8 135 2 B26471 1g heavy 63 70.8 135 2 137778 1g varia 63 70.8 135 2 137778 1g varia 1g heavy 63 70.8 135 2 137778 1g heavy 63 70.8 135 2 137778 1g varia	45	44	43	42	41.	40	39	38	37	36	35	34	33	32	31	30
121 2 127887	63	ಽ	63	63	64	64	64	64	64	64	64	65	65	65	65	65
2 127887 I9 2 \$63597 I9 2 \$63597 I9 2 \$63813 I9 2 \$38813 I9 2 \$38864 I9 2 \$10875 I9 2 \$10875 I9 2 \$10875 I9 2 \$10889 I9 2 \$10889 I9 2 \$10888 I9 3 \$10888 I9 4 \$10888 I9 5 \$10888 I9 6 \$10888 I9 7 \$10888 I9 8 \$10888 I9 9 \$10888 I9 1 \$108	70.8	70.8	70.8	70.8	71.9	71.9	71.9	71.9	71.9	71.9	71.9	73.0	73.0	73.0	73.0	73.0
127887 I9 \$63597 I9 \$627888 I9 \$68213 I9 \$38864 I9 PH0875 I9 PH0875 I9 PH0876 I9 PT0889 I9 B27889 I9 B27888 II B27888 III	140	135	119	102	152	121	121	119	101	98	97	548	213	124	123	121
	N	N	_	N	N	N	N	N	N	_	N	N	N	N	N	N
Ig heavy Ig heav Ig heav Ig peav Ig peav Ig heav	147204	137778	A1HUBR	PH1017	B26471	B27888	A27888	B27889	C27889	HVMS96	PH0875	S38864	S68213	C27888	863597	127887
	Ig heavy chain	Ig variable	Ig heavy	Ig heav	Ig heavy	Ig heavy	Ig heavy	Ig heav	Ig heavy	Ig heavy	Ig heavy	Ig epsil	Ig heavy	Ig heav	Ig heavy	1g neavy

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R; Fillman, D.M.; Jou, N.T.; Hill, R.J.; Marion, T.N.
J. Exp. Med. 176, 761-779, 1992
A; Title: Both IgM and IgG anti-DNA antibodies are the products of clonally selective B. A; Reference number: PH0971; MUID:92381444; PMID:1512540
A; Accession: PH1007
A; Status: nucleic acid sequence not shown
A; Molecule type: mRNA
A; Residues: 1-111 <TIL>
A; Experimental source: B cell, strain [NZB x NZW]F1
C; Keywords: heterotetramer; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                    Ig heavy chain V region (10C5) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 23-Jul-1999
C;Accession: S21593
R;Kaartinen, M.
submitted to the EMBL Data Library, May 1992
A;Reference number: S21591
A;Accession: S21593
A;Status: preliminary
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ig heavy chain V region (clone 163-c1) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
C;Accession: PH1007
R;Tillman, D.M.; Jou, N.T.; Hill, R.J.; Marion, T.N.
                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-83 < KAA->
A; Residues: 1-83 < KAA->
A; Cross-references: EMBL: X66457; NID: g51598; PIDN: CAA47072.1; PID: g51599
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
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Matches 13
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Matches 14; Conserv
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                   1 YISSGGSGTYYSDSVKG 17
                                                                                 1 Similarity
13; Conserv
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YITSGGVSTYYSDTVKG
                                                                                   Conservative
                                                                      79.8%; bu-
76.5%; Pred
170.2;
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36
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                                                                                                       Score 71; DB 2;
Pred. No. 0.0012;
                                                                                   Mismatches
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Ig heavy chain precursor V region (345) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1990 #sequence_revision 30-Jun-1990 #text_change 09-Jul-2004
C;Accession: JT0502
R;Levy, N.S.; Malipiero, U.V.; Lebecque, S.G.; Gearhart, P.J.
J. Exp. Med. 169, 2007-2019, 1899
A;Title: Early onset of somatic mutation in immunoglobulin VH genes during the particle that the Early onset of somatic mutation in immunoglobulin VH genes during the particle early onset of somatic mutation in immunoglobulin VH genes during the particle early onset of somatic mutation in immunoglobulin VH genes during the particle early onset of somatic mutation in immunoglobulin VH genes during the particle early onset of somatic mutation in immunoglobulin homology
A;Reference number: JT0501; MUID:89279149; PMID:2499654
A;Recession: JT0502
A;Reference number: JT0501; MUID:89279149; PMID:2499654
A;Reference number: 
Ig heavy chain V region (BFL14) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 16-Aug-1988 #sequence_revision 16-Aug-1988 #text_change 09-Jul-2004
C;Accession: C25913
R;Lawler, A.M.; Lin, P.S.; Gearhart, P.J.
Proc. Natl. Acad. Sci. U.S.A. 84, 2454-2458, 1987
A;Title: Adult B-cell repertoire is biased toward two heavy-chain variable-region genes
A;Reference number: A94148; MUID:87175692; PMID:3104915
A;Accession: C25913
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A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-113 <KAV>
A;Coss-references: EMBL:X59107; NID:g51944; PIDN:CAA41833.1; PID:g51945
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;11-94/Domain: immunoglobulin homology <IMM>
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submitted to the EMBL Data Library, April 1991
A;Reference number: S26459
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C25913
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C;Species: Mus musculus (house mouse)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 23-Jul-1999
C;Accession: S26468
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Best Local S
Matches 13
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Best Local S
Matches 13
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76.5%;
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Pred. No. 0.0017;
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RESULT PH1008

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A;Accession: S14580
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-94 <CHE>
A;Cross-references: EMBL:X58652; NID:g51293; PIDN:CAA41509.1; PID:g51294
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;7-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                   Ig heavy chain V region - mouse
C;Species: Mus musculus (house mouse)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-196
C;Accession: S14581
R;Chen, Q; Stenzel-Poore, M.; Rittenberg, M.B.
submitted to the EMBL Data Library, March 1991
A;Description: Natural polyreactive antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ig heavy chain V region - mouse C;Species: Mus musculits (house mouse) C;Decies: Normal Musculits (house mouse) C;Accession: S14580 R;Chen, Q.; Stenzel-Poore, M.; Rittenberg, M.B. submitted to the EMBL Data Library, March 1991 A;Description: Natural polyreactive antibodies differ A;Reference number: S14484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-83 < LAW>
A; Residues: 1-80 < LAW>
A; Cross-references: UNIPROT: Q920E7
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
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                                                                                                                                                                                                 A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-102 <CHE>
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A; Accession: S14581
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Best Local S
Matches 14
                                                                 Matches
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Best Local 9
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issggsytyyppsvkg 58
                                ISSGGSGTYYSDSVKG 17
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                                                                Conservative
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87.5%;
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Pred. No. 0.00
0; Mismatches
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Pred. No.
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Pred. No. 0.0033;
0; Mismatches
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0.0037;
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В

В

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A;Residues: 1-108 <STE>
A;Cross-references: EMBL:X67072; NID:g38401; PIDN:CAA47457.1; PID:g38402
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;11-94/Domain: immunoglobulin homology <IMM>
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c;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change
c;Accession: PH1008
R;Tillman, D.M.; Jou, N.T.; Hill, R.J.; Marion, T.N.
J. Exp. Med. 176, 761-779, 1992
A;Title: Both IgM and IgG anti-DNA antibodies are the products
A;Reference number: PH0971; MUID:92381444; PMID:1512540
A;Accession: PH1008
A;Experimental source: B cell, strain [NZB x NZW]F1 C;Superfamily: immunoglobulin V region; immunoglobulin C;Keywords: heterotetramer; immunoglobulin E;15-97/Domain: immunoglobulin homology <IMM>
                                                                                                                                             C;Accession: PH1010

R;Tillman, D.M.; Jou, N.T.; Hill, R.J.; Marion, T.N.

J. Exp. Med. 176, 761-779, 1992

A;Title: Both IgM and IgG anti-DNA antibodies are the products of clonally selective B A;Reference number: PH0971; MUID:92381444; PMID:1512540

A;Accession: PH1010

A;Accession: PH01010

A;Status: nucleic acid sequence not shown
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
                                                                                                 A; Molecule type: mRNA
A; Residues: 1-108 <TIL>
                                                                                                                                                                                                                                                                                                                    Ig heavy chain V region (clone 17s.93) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
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Species: Mus musculus (house mouse)
Jate: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
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Pred. No. 0.0043
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Pred. No.
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C;Superfamily: immunoglobulin V region; immuno
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMN-
F;31-35/Region: complementarity-determining 1
F;50-66/Region: complementarity-determining 2
F;99-105/Region: complementarity-determining 3
                                                                                                                                                                                                                                                                                                                        C;Date: 15-Jan-1993 #sequence_revision 15-Jan-1993 #text_change 16-Aug-1996 C;Accession: PH0097 R;Schmitter, D.; Poch, O.; Zeder, G.; Heinrich, G.F.; Kocher, H.P.; Quesniaux, V.F.J.; Mol. Immunol. 27, 1029-1038, 1990 A;Title: Analysis of the structural diversity of monoclonal antibodies to cyclosporine. A;Reference number: PH0087; MUID:91042649; PMID:2122240 A;Accession: PH0097
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R;Levy, N.S.; Mallpiero, U.V.; Lebecque, S.G.; Gearhart, P.J.
J. Exp. Med. 169, 2007-2019, 1989
A;Title: Early onset of somatic mutation in immunoglobulin VH genes during the primary in
A;Reference number: JT0501; MUID:89279149; PMID:2499654
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HVMS84
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A, Note: this sequence belongs to the VH7183 subfamily
C, Superfamily: immunoglobulin V region; immunoglobulin
C, Keywords: heterotetramer; immunoglobulin
C, Keywords: heterotetramer; immunoglobulin
C, Toly Domain: signal sequence #status predicted <SIGs
F, 20-117/Product: Ig heavy chain V region (5-84) #stat
F, 34-117/Domain: immunoglobulin homology < IMM>
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1990 #sequence_revision 30-Jun-1990 #text_change
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A; Residues: 1-118 <SCH>
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Pred. No. 0.0046;
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RESULT F27888

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A;Title: Comprehensive epitope analysis of monociutations in the variable region genes.
A;Reference number: S55528; MUID:95239763; PMID:A;Accession: S55536
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-120 <BOE>
A;Cross-references: EMBL:X82589; NID:g854304; PII
A;Cross-references: EMBL:X82589; NID:g854304; PII
C;Superfamily: immunoglobulin V region; immunoglo
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EMBO J. 5,
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A; Experimental source: strain Balb/c
A; Note: this sequence was determined from the germline gene
C; Comment: This chain was isolated from a hybridoma protein that !
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
F; 15-98/Domain: immunoglobulin homology <IMM>
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C;Species: Mus musculus (house mouse)
C;Date: 27-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 23-Jul-1999
C;Accession: $55537
R;Boettger, V; Boettger, A.; Lane, E.B.; Spruce, B.A.
J. Mol. Biol. 247, 932-946, 1995
A;Title: Comprehensive epitope analysis of monoclonal anti-proenkephalin antibodies usin utations in the variable region genes.
A;Reference number: $55528; MUID:95239763; PMID:7536850
A;Accession: $55537
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-120 <BOE>
A;Residues: FYBI: MOID: $550. NID: $5530. DIN: CARETOC 1. DIN: CARETOC
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                                                                                                                                                                                                                      Ig heavy chain V region pe20 - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 27-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 23-Jul-1999
C;Accession: S55536
R;Boettger, V.; Boettger, A.; Lane, E.B.; Spruce, B.A.
J. Mol. Biol. 247, 932-946, 1995
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A; Residues: 1-119 < CAT>
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;14-97/Domain: immunoglobulin homology <IMM>
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87.5%;
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87.5%; Pred. No.
                                                                                                                                                  MUID:95239763; PMID:7536850
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ISSGGGSTYYPDSVKG

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Ig heavy chain V region (anti-DNA, DP12VH) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 16-Sep-1992 #sequence_revision 16-Sep-1992 #text_change 16-Aug-1996
C;Accession: PL0248
R;Shlomchik, M.; Mascelli, M.; Shan, H.; Radic, M.Z.; Pisetsky, D.; Marshak-Roth
J. Exp. Med. 171, 265-297, 1990
A;Title: Anti-DNA antibodies from autoimmune mice arise by clonal expansion and A;Reference number: PL0231; MUID:90111618; PMID:2104919
A;Accession: PL0248
                                                                                                                                                                                   A;Molecule type: mRNA
A;Residues: 1-108 <SHL's
A;Residues: 1-108 <SHL's
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;1-24/Region: framework 1
F;9-92/Domain: immunoglobulin homology <IMM's
F;25-29/Region: complementarity-determining 1
F;30-43/Region: framework 2
F;30-43/Region: framework 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This Chain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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PL0248
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R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W.
EMBO J. 5, 1577-1587, 1986
A;Title: Structural and functional implications of a restricted
A;Reference number: A91043; MUID:86300658; PMID:2427335
ş
                                                                                                           F;93-99/Region: complementarie
F;100-108/Region: framework 4
                                                                                                                                 F;61-92/Region: framework 3
F;93-99/Region: complementarity-determining
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A;Molecule type: DNA
A;Residues: 1-122 <CAT>
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C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
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                                                                                                                                                     F;44-60/Region: complementarity-determining F;61-92/Region: framework 3
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 ISSGGSGTYYSDSVKG 17
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Pred. No.
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Pred. No. 0.
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C;Species: Homo sapiens (man)
C;Species: 19-Feb-1994 #sequence_revision 10-Nov-1995 #text_change 23-Jul-1999
C;Accession: $24252
C;Accession: $24252
B;Stewart, A.K.; Huang, C.; Stollar, B.D.; Schwartz, R.S.
Bubmitted to the EMBL Data Library, June 1992
A;Description: A single VH gene predominates in the rearranged and expresse A;Reference number: $24247
A;Accession: $24252
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S20641
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S24252
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C;Species: Mus musculus (house mouse)
C;Date: 29-Jan-1993 #sequence_revision 29-Jan-1993 #text_change 23-Jul-1999
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C;Superfamily: immunoglobulin V region; imm
C;Keywords: heterotetramer; immunoglobulin
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A; Residues: 1-138 < HAM>
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Nucleic Acids Res. 18, 1900, 1990
A;Title: Nucleotide sequences of the variable regions of a mouse monoclonal antibody MRK
A;Reference number: S09258; MUID:90245594; PMID:2110659
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A;Molecule type: DNA
A;Residues: 1-118 <LOS>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Date: 20-Feb-1995 #sequence_revision C;Accession: S20641
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                      A; Molecule type: DNA
A; Residues: 1-97 <STE>
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                                                                A; Status: preliminary
    A;Cross-references:
                                                                                                                                                                                                                                            Ig heavy chain V region (N54P3-D-JH6) - human
C;Species: Homo sapiens (man)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ig heavy chain V region -
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Matches 13; Conserv
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Best Local Similarity
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EMBL:X67073; NID:g38403; PIDN:CAA47458.1; PID:g38404
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81.2%;
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Pred. No. 0.0077;
0; Mismatches
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Pred. No. 0.0066;
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RESULT 23
PH1652
Ig heavy chain V region (
C;Species: Homo sapiens (
C;Date: 24-Feb-1994 #sequ
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Ig heavy chain V region (DP-35) - human (fragment)
C;Species: Homo sapiens (man)
C;Ante: 22-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 23-Jul-1999
C;Accession: $26930
R;Tomlinson, I.M.; Walter, G.; Marks, J.D.; Llewelyn, M.B.; Winter, G.
J. Mol. Biol. 227, 776-798, 1992
A;Title: The repertoire of human germline V(H) sequences reveals about fifty groups
A;Reference number: $26885; MUID:93021117; PMID:1404388
A;Accession: $26930
                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:Z12337; NID:g32892; PIDN:CAA78207.1; PID:g32893
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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J. Mol. Biol. 227, 776-798, 1992
A;Title: The repertoire of human germline V(H) sequences reveals about fifty groups
A;Reference number: $26885; MUID:93021117; PMID:1404388
A;Accession: $26891
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A; Residues: 1-98 < TOM>
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A;Molecule type: DNA
A;Residues: 1-98 <TOM>
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Best Local S
Matches 13
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Pred. No.
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Pred. No.
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#sequence_revision

24-Feb-1994 #text_change 16-Aug-1996

(man)

(clone 5D4) - human (fragment)

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C;Accession: PH1652
R;Hillson, J.L.; Karr, N.S.; Oppliger, I.R.; Mannik, M.; Sasso, E.H.
J. Exp. Med. 178, 331-336, 1993
A;Title: The structural basis of germline-encoded VH3 immunoglobulin binding to staphylo A;Reference number: PH1642; MUID:93301610; PMID:8315388
A;Accession: PH1652
A;Molecule type: mRNA
A;Residues: 1-110 <HIL>
A;Experimental source: B cell
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;7-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                           Ig heavy chain (subclass IgM) - human (fragment)
c;Species: Homo sapiens (man)
C;Date: 22-Nov-1993 #sequence_revision 26-May-1995 #text_change 23-Jul-1999
C;Accession: S31105
R;Raaphorst, F.M.; Timmers, E.; Kenter, M.J.H.; van Tol, M.J.D.; Vossen, J.M.;
                                                                                                                                                                                                                                                              Eur. J. Immunol. 22, 247-251, 1992

A;Title: Restricted utilization of germ-line V(H)3 genes and short diverse third complem A;Reference number: S31104; MUID:92111633; PMID:1730252

A;Accession: S31105
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C;Date: 02-Dec-1993 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C;Accession: S31120
R;Raaphorst, F.M.; Timmers, E.; Kenter, M.J.H.; van Tol, M.J.D.; Vossen, J.M.; Schuurman Eur. J. Immunol. 22, 247-251, 1992
                                                                                                                                                                                          A;Status: preliminary; nucleic acid sequence not shown; translation A;Molecule type: mRNA A;Residues: 1-118 <RAAA>
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A;Molecule type: mRNA
A;Residues: 1-114 <RAA>
A;Cross-references: EMBL:X62972
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A;Title: Restricted utilization of germ-line V(H)3 genes and
A;Reference number: S31104; MUID:92111633; PMID:1730252
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                                                                                                                                          A;Cross-references: EMBL:X63081; NID:g32648; PIDN:CAA44803.1; PID:g32649
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, October 1991
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Best Local S
Matches 13
                                                                                             Superfamily: immunoglobulin V region; immunoglobulin homology Keywords: heterotetramer; immunoglobulin
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76.5%;
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Score
Pred.
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Pred. No. 0.0089;
1; Mismatches
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Pred. No. 0.0086;
1; Mismatches
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  No;
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  DB 2;
0.0092;
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Ig heavy chain V region (H36-2) - mouse (;Speciles: Mus musculus (house mouse) C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change C;Accession: D27889 R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W. EMBO J. 5, 1577-1587, 1986 EMBO J. 5, 1577-1587, 1986 A;Title: Structural and functional implications of a restricted A;Reference number: A91043; MUID:86300658; PMID:2427335
                                                                                                                                                                                                                                                                                                                                                                               R;Mortari, F.; Newton, J.A.; Wang, J.Y.; Schroeder Jr., H.W. Eur. J. Immunol. 22, 241-245, 1992
A;Title: The huban cord blood antibody repertoire. Frequent usage A;Reference number: S26786; MUID:92111632; PMID:1730251
A;Accession: S26790
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A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
RESULT
                                                                                                                                                                                                                                  A;Cross-references: EMBL:X61013; NID:g32798; PIDN:CAAA3347.1; PID:g1335128 C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin F;15-98/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Homo sapiens (man)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change
C;Accession: S26790
                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-128 < MOR>
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A; Residues: 1-119 < CAT>
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                                                                                                                                                             Score 66; DB Pred. No. 0.01
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Pred. No. 0.00
1; Mismatches
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Ig heavy chain variable VDJ region - pig (fragment)
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change
C;Accession: I47193
R;Sun, J.; Kacskovics, I.; Brown, W.R.; Butler, J.E.
J. Immunol. 153, 5618-5627, 1994

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homologous

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A;Molecule type: DNA
A;Residues: 1-121 <CAT>
A;Residues: 1-121 <CAT>
A;Experimental source: strain Balb/c
A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that location in the chain was isolated from a hybridoma protein that location in the chain was isolated from a hybridoma protein that location in the chain was isolated from a hybridoma protein that location in the chain was isolated from the germline gene
C;Comment: This chain was isolated from the germline gene
C;Comment: This chain was determined from the germline gene
C;Comment: This chain was determined from the germline gene
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C;Comment: This chain was determined from the germline gene
C;Comment: This chain was determined from the germline gene
C;Comment: This chain was determined from the germline gene
C;Comment: This chain was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that location was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that location was determined from the germline gene
C;Comment: This chain was determined from the germline gene
C;Comment: This chain was determined from the germline gene
C;Comment: This chain was determined from the gene
C;Comment: This chain was determined from the general fro
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A;Molecule type: DNA
A;Residues: 1-118 </AM>
A;Residues: 1-118 </AM>
A;Cross-references: EMBL:Y00380; NID:964810;
A;Cross-reference was determined from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBO J. 5, 1577-1587, 1986

A;Title: Structural and functional implications of a restricted A;Reference number: A91043; MUID:86300658; PMID:2427335
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A;Status: preliminary; translated
A;Molecule type: mRNA
A;Residues: 1-137 <SUN>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C; Accession: 127887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ig heavy chain V region (H37-45) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
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Nucleic Acida Res. 15, 5888, 1987
A;Tille: Nucleotide sequences of variable region segments of
A;Reference number: S00700; MUID:87289054; PMID:3112743
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C;Species: Xenopus laevis (African clawed frog)
C;Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 23-Jul-1999
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
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Best Local S
Matches 12
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Best Local (
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                                                                73.0%; Score 65; DB 2;
81.2%; Pred. No. 0.013;
tive 1; Mismatches
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Ig heavy chain (Mab03-1) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 29-Jul-1997 #sequence_revision 17-Sep-1997 #text_change 09-Jul-2004
C;Accession: $68213
R;Takagi, M.; Kohda, K.; Hamuro, T.; Harada, A.; Yamaguchi, H.; Kamachi, M.; Imanaka, T.
FEBS Lett. 375, 273-276, 1995
A;Title: Thermostable peroxidase activity with a recombinant antibody L chain-porphyrin
A;Reference number: $68211; MUID:96085223; PMID:7498516
A;Accession: $68213
A;Status: preliminary; nucleic acid sequence not shown
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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C:Species: Mus musculus (house mouse)
C:Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
C:Accession: C27888
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S68213
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A;Molecule type: mRNA
A;Residues: 1-123 <VER>
A;Cross-references: GB:S81215; NID:g1336823; PIDN:AAB36172.1; PID:g1336824
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;15-98/Domain: immunoglobulin homology <IMM>
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C;Accession: S63597

C;Accession: S63597

Bravo, J.; Domingo, B.; Fita, I.

Domingo, B.; Fita
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, EMBO J. 5, 1577-1587, 1986
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C;Species: Mus musculus (house mouse)
C;Date: 28-Oct-196 #sequence_revision 13-Mar-1997 #text_change
C;Accession: 863597
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Best Local S
Matches 13
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Best Local S
Matches 13
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; Pred. No. 0.01
1; Mismatches
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Pred. No.
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Ig heavy chain V region (anti-DNA, H2F) - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 09-Oct-1992 #sequence_revision 09-Oct-1992 #text_change 09-Jul-2004
C;Accession: PH0875
R;Manheimer-Lory, A.; Katz, J.B.; Pillinger, M.; Ghossein, C.; Smith, A.; Diamond, B.
J. Exp. Med. 174, 1639-1652, 1991
A;Title: Molecular characteristics of antibodies bearing an anti-DNA-associated idiotype
A;Reference number: PH0805
A;Reference number: PH0802; MUID:92078875; PMID:1660528
A;Accession: PH0875
A;Accession: PH0805
A;Cross-references: UNIROT:09UL91
C;Comment: This antibody is produced by Epstein-Barr virus-transformed B cell that bears
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin homology
F;14-97/Domain: immunoglobulin homology <INM/P;140-66/Region: complementarity-determining 1
F;49-66/Region: complementarity-determining 2
RESULT 36
HVMS96
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S38864
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C;Superfamily: immunoglobulin C region; immunoglobulin homology
F;353-421/Domain: immunoglobulin homology <IMM>
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A;Molecule type: mRNA
A;Residues: 1-548 <KIP>
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A;Description: Combination of a defined specificity and desired isotype by cloning of A;Reference number: $38864
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C;Superfamily: immunoglobulin C region; immunoglobulin homology
F;137-201/Domain: immunoglobulin homology <IMM>
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PH0875
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C;Species: Mus musculus (house mouse)
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1; Mismatches
                                                                                                                                                                      Score 64; DB 2;
Pred. No. 0.015;
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Pred. No.
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Ig heavy chain V region (H220-25) - mouse
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
C;Accession: C27889
R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W.
EMBO J. 5, 1577-1587, 1986
A;Title: Structural and functional implications of a restricted antibody respons A;Reference number: A91043; MUID:86300658; PMID:2427335
A;Recession: C27889
A;Molecule type: DNA
A;Residues: 1-101 <CAT>
A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binds influenza C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1990 #sequence_revision 30-Jun-1990 #text_change 09-Jul-2004
C;Accession: JT0501
R;Levy, N.S.; Malipiero, U.V.; Lebecque, S.G.; Gearhart, P.J.
J. Exp. Med. 169, 2007-2019, 1989
A;Title: Early onset of somatic mutation in immunoglobulin VH genes during (A;Reference number: JT0501; MUID:89279149; PMID:2499654
A;Accession: JT0501
A;Status: translation not shown
A;Molecule type: manNA
A;Residues: 1-98 cLEV>
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A;Note: this sequence belongs to the VH7183 subfamily
C;Superfamily: immunoglobulin V region; immunoglobulir
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMY>
F;22-96/Disulfide bonds: #status predicted
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C27889
A; Experimental source: strain Balb/c A; Note: this sequence was determined from C; Comment: This chain was isolated from
                                                                  A; Molecule type: DNA
A; Residues: 1-119 < CAT>
                                                                                                                                  R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W. EMBO J. 5, 1577-1587, 1986
A;Title: Structural and functional implications of a restricted A;Reference number: A91043; MUID:86300658; PMID:2427335
                                                                                                                                                                                                                            Ig heavy chain V region (H146-24B3) - mouse C;Species: Mus musculus (house mouse) C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change C;Accession: B27889
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A,Experimental source: strain Balb/c
A,Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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C;Species: Mus musculus (house mouse)
C;Species: 15-Dec-1988 #text_change 16-Aug-1996
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Search completed: December 17, 2004, 18:30:14 Job time: 7.68539 secs
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A; Residues: 1-121 <CAT>
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C;Species: Mus musculus (house mouse)
C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
C;Accession: B27888
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YSDSVKG : YPDTVKG	79.8% 76.5% ative	10n;	19- 19-	PubMed=2 ro U.V., matic mu	. 16, Created 16, Last sec 38, Last am region 345 p: ise) . Chordata; ia; Rodentia;	STANDARD;	130 1118 1123 124 124 136 614 121 121 121 121 121 121 121 123 123 123
3 17 3 85	; Score 71; DB 1; Len ; Pred. No. 0.0031; 1; Mismatches 3;	Signal. Ig heavy chain V region Framework-1. Complementarity-determinencementarity-determinencementarity-determinencementarity. By similarity. MW; 49380E4627ACA99A CRC6	belongs to the	.A. 9; PubMed=2499654; piero U.V., Lebecque S.G., Gearhart gematic mutation in immunoglobulin	d) sequence update) simotation update) precursor. s; Craniata; Vertebrata; s; Sciurognathi; Muridae	ALIGNMENTS PRT; 117 AA.	BAD00691 1 HV58 MOUSE 2 AAL35871 2 BAD00234 2 BAD00238 2 BAD00606 2 BAD00606 2 BAD0077 2 AAL35869 2 BAD00422 2 BAD00422 2 BAD00423 2 BAD00492 2 BAD00493 3 BAD00459 3 BAD00459
	gth 117; Indels 0; Gaps 0;	region 345. determining-1. determining-2.	VH7183 subfamily.	P.J.; VH genes during the	Euteleostomi; ; Murinae; Mus.		Bad00691 camelus d P18529 mus musculu Aal35871 lama glam Bad00234 camelus d Bad00238 camelus d Q6ddq7 xenopus lae Aal35869 lama glam Bad00422 camelus d Bad00402 camelus d Bad004013 camelus d Bad00413 camelus d Bad00413 camelus d Bad00413 camelus d Bad00459 camelus d

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Best Local S
Matches 13
                                                                               HV54 MOUSE
P18525;
01-NOV-1990
01-NOV-1990
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BAD00303;
02-MAR-2004
02-MAR-2004
02-MAR-2004
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                                                                                                                                                                MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ
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02-MAR-2004
                                       Ol.NOV-1990 (Rel. 16, Created)
Ol.NOV-1990 (Rel. 16, Last sequence upolstyll-1999 (Rel. 38, Last annotation upolstyll-1999 (Rel. 38, Last annotation upolstyll-1999 (Rel. 1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gamma3 in vivo repertoires."
Submitted (SEP-2002) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI
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Mammalia; Eutheria;
  Eukaryota;
                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HOnda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IGVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Honda T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IGVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9838;
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)2-MAR-2004 (TrEMBLrel. 27, Last
mmunoglobulin heavy chain VHDJ r
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _TaxID=9838;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AB091941; BAD00303.1;
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ies of heavy-chain antibodies reflecting
                                                                                                                                                                                                                                                                                                                                             Similarity
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127 AA;
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127 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                             Conservative
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                      (Mouse)
                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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                                                                                                                                                                                                                                                                                                                                                                                                          13452 MW;
  Chordata;
                                                                                                                                                                                                                                                                                                                                             78.7%;
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Pred. No. 0.0034;
                                                                                                                                                                                                                                                                                                                          Pred. No. 0.00
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                  Score 70;
    Craniata;
                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                          FCB3C0201720A482 CRC64;
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annotation update)
region (Fragment).
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                                                            update)
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    Vertebrata;
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                                                                                                                                                                                                                                                                                                                                                                Length 127;
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    Euteleostomi;
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                                                      Query Match
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Best Local :
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Q920E7;
01-DEC-2001
01-DEC-2001
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SEQUENCE
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SMART; SM00406; IGV; 1.
PROSITB; PS50835; IG_LIKE;
                                                                                                                                                                                                                                                                                                              PIR; C25913; C25913.
HSSP; P01783; 1IGC.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                                                                                                                           Atkin J.D., Iape A., Jennin Submitted (SEP-2000) to the EMBL; AF307937; AAL09421.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Pterin-minicking anti-idiotope heavy chain variable
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J. Exp. Med. 169:2007-2019(1989).
-!- MISCELLANEOUS: This sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus (Mouse).
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SMART; SM00406; IGv;
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HSSP; P01810; 2FBJ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia; Eutheria;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunoglobulin
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InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Early onset of somatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=89279149; PubMed=2499654;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   69
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1 PS50835; 10 10 10 region, 5
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     ISSGSSTYYSDSVKG
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119 AA;
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                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ΑA;
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IG_LIKE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence belongs to
                                                                                                                                                               119
13025 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               54
68
85
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12872 MW;
                                                                            76.4%;
87.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jennings I.G., Horaitis O., Cotton R.G.H.; to the EMBL/GenBank/DDBJ databases.
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                                                 Score 68; DB:
Pred. No. 0.00
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 68;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ig heavy chain V region 5-84. Framework-1.
Complementarity-determining-1. Framework-2.
Complementarity-determining-2.
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By similarit
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                                                                                                                                                                  F6E904044381CA7C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       119
                                                                                     0.0095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vertebrata; Euteleostomi;
chi; Muridae; Murinae; Mus
                                                                                                             DB 2;
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                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
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                                                            Indels
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VH ge
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           genes
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RESULT 7
AALJ3 877
ID AALJ3
AC AALJ
DT 02-W
DT 02-W
DT 02-W
DT 02-W
DT Immn
OS Lamme
OC Euke
OC Mamm
OC Mam
OC Mam
Tan
RT MEO
RY MED
RY NON
SEQ
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SEQ
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BADOW 411
ID 08AD0
AC BADO
DT 02-N
DT 02-N
DT 02-N
DT 02-N
DT 02-N
DT 02-N
DT 102-N

RESULT 8
BAD00231
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Best Local S
Matches 13
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

MEDLINE=22007448; PubMed=12009207;
Tanha J., Dubuc G., Hirama T., Narang S.A., MacKenzie C.R.;
Tanha J., Dubuc G., Hirama T., Narang S.A., MacKenzie C.R.;
Tanha J., Dubuc G., Hirama T., Narang S.A., MacKenzie C.R.;
"Selection by phage display of llama conventional V(H) fragments with heavy chain antibody V(H)H properties.";
J. Immunol. Methods 263:97-109(2002).

EMBL; AF442946; AAL35877.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAL35877
AAL35877;
02-MAR-2004
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NON_TER
SEQUENCE
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Libraries of heavy-chain antibodies reflecting gamma3 in vivo repertoires."; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ da EMBL; AB092069; BAD00431.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain variable domain (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BAD00431;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lama glama (Llama).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9844;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Spleen;
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                                                                                                                                                                                                          12;
                                                                                                                                                       N
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                                                                                                       INSGGGSTYYADSVKG
                                                                                                                                     ISSGGSGTYYSDSVKG
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117
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llarity 81.2%;
Conservative
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                                                                                                                                                                                                                                                                                                                                       117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Tylopoda; Camelidae; Lama.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12524 MW;
                                                                                                                                                                                                                               74.2%;
                                                                                                                                                                                                                                                                                                            12459 MW;
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                                                                                                                                                                                                       Score 66; DB 2;
Pred. No. 0.019;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 67; DB 2;
Pred. No. 0.013;
1; Mismatches
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                                                                                                                                                                                                                                                                                                         08F5E4BA402F98D1
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RESULT 10
BAD00233
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Best Local S
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Best Local S
Matches 12
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SEQUENCE
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02-MAR-2004
02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                          Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel
"gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ database
EMBL; AB092093; BAD00455.1; -.
NON_TER 1
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Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB091869; BAD00231.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Camelus dromedarius (Dromedary) (Arabian camel).
Eukaryota; Metazoa; Chordata; Craniata; Vertebra
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; C
                                                                                                                                                                                                                                                                       TISSUE=Spleen;
                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                          Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                     IGVH
                                                                                                                                                                                                                                                                                                                                                             02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
1mmunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                               BAD00455;
02-MAR-2004
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TISSUE=Peripheral blood;
Honda T , Akahori Y., Ku
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IGVH
                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9838;
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120 AA;
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                                                                                                                                                                                    A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       heavy chain
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; 13140 MW;
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                                                                                                                                                                                                                                                                                                                    (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12888 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                   74.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             74.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27, Created)
27, Last seguence update)
27, Last annotation update)
27, Last annotation update)
nain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
                                                                                                                                         Score 66; DB Pred. No. 0.02 2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 66;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                    F89DDF2022218EC5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B5CFD3D14DA23813 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                   DB 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
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                                                                                                                                                                                                                                databases.
                                                                                                                                           2
                                                                                                                                                                Length 122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gamma2
                                                                                                                                                                                                                                                    gamma2
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                                                                                                                                           0,
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                                                                                                                                          Gaps
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BAD00233; 02-MAR-2004 02-MAR-2004 02-MAR-2004

(TrEMBLrel. (TrEMBLrel. (TrEMBLrel.

27, 27, 27,

Created)

Last sequence update)
Last annotation update)

BAD00233

PRELIMINARY;

124

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RESULT 12
BADD0420
ID BAD00
AC BAD00
AC BAD00
DT 02-MA
DT 02-MA
DT 02-MA
CON IGVH.
OS Camel
OC Bukar
OC Mamma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
BAD0025
ID BAD00
AC 
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Best Local S
Matches 12
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Best Local S
Matches 12
                                                                                                                                                                            BAD00420
BAD00420;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BAD00225
BAD00225;
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NON_TER
SEQUENCE
                                                                 02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
IGVH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AB091871; BAD00233.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the E
EMBL; AB091863; BAD00225.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-Peripheral blood;
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
TISSUB=Peripheral blood;
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2
      Eukaryota;
Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota;
                                               Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IGVH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [GVH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                            51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 ISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                     N
                                                                                                                                                                                                                                                                                                                                                                                               12;
                                                                                                                                                                                                                                                                                                                                                                                             h 74.2%;
Similarity 75.0%;
12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INSGGGSTYYADSVKG 66
                                                                                                                                                                                                                                                                                                          INSCGGSTYYADSVKG
                                                                                                                                                                                                                                                                                                                                   ISSGGSGTYYSDSVKG
      ; Metazoa;
Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        124
124 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126
126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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.; 13374 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
(Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13717 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         74.2%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         chain
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                                                                                                                                                                                                                                                                                                                                                                                             2;
                                                                                                                                                                                                                                                                                                                                                                                             Score 66; DB
Pred. No. 0.02
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     486E1D741474EF26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No.
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                                                                                                                                                                                                   126
                                                                                                                                                                                                                                                                                                                                                                                                               DB 2;
0.021;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
0.021;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA.
                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                camel gamma2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cameius.
                                                                                                                                                                                                                                                                                                                                                                                             0,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and
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                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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RESULT 14
BAD00444
ID BAD00
AC BAD00
AC BAD00
DT 02-MA
DT 02-MA
DT 02-MA
DT 02-MA
CON IGWH.
OS Camell
OC Bukar
OC Mamma
OX NCBI
RN [1]
RN [1]
RN FISSU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 13
BAD00406
ID BAD00
AC BAD00
AC
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Best Local S
Matches 12
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Best Local S
Matches 12
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02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                        BAD00444
BAD00444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AE
NON_TER
NON_TER
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Mammalia; E
                                                                                                                                                                       02-MAR-2004 (TrEMBLrel. 27,
02-MAR-2004 (TrEMBLrel. 27,
02-MAR-2004 (TrEMBLrel. 27,
11mmunoglobulin heavy chain V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Camelus dromedarius
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, 1mmunoglobulin heavy chain V
                TISSUE=Spleen;
                                      SEQUENCE FROM N.A.
                                                                                                                                     Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel ga
gamma3 in vivo repertoires";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BAD00406;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9838;
                                                                        NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AB092044; BAD00406.1;
                                                                                                                                                                                                                                                                                                                                                                           51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51
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                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                    12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                           INSGGGSTYYADSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INSGGGSTYYADSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                              ISSGGSGTYYSDSVKG 17
                                                                                                 Eutheria;
    Akahori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128
128 AA;
                                                                                                                     Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    126 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                            PRELIMINARY;
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    ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 128
13856 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126
13569 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                               (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                               Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74.2%;
    Kurosawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66
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                                                                                                                                                                                                                                                                                                                                                                           66
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, Last annotation update)
VHDJ region (Fragment).
                                                                                                                                                                               VUHV
                                                                                                                                                                                                Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                        Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 66; DB
Pred. No. 0.02
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
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Pred. No.
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                                                                                                 Tylopoda; Camelidae;
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Eukaryota; Metazoa; C
Mammalia; Eutheria; C
MCBI_TaxID=9838;
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SEQUENCE
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gagamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092132; BAD00494.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AB092306; BAD00668.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gamma3 in vivo repertoires."
Submitted (SEP-2002) to the
EMBL; AB092082; BAD00444.1;
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Mammalia; Eutheria;
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Immunoglobulin heavy chain v
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02-MAR-2004 (TrEMBLrel. 27,
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13775 MW;
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Chordata; Craniata; Vertebrata; Eutel
Cetartiodactyla; Tylopoda; Camelidae;
                                                                                                                                                                                                                                                                                                          Cetartiodactyla;
                                                                                                                                                                                                                                                                                                       (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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VHDJ region (Fragment).
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Pred. No. 0.027
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Pred. No. 0.02
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RESULT 17

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DT 02-MAR-200

DT 102-MAR-200

Camelus dr

OC Eukaryota;

OC Mammalia;

OC Mammalia;

OC Mammalia;

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A Peter J.C., Wallukat G., Tugler J., Maurice D., Roegel J.C.

A Briand J.P., Hoebeke J.,

Bubmitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.

EMBL, AJ746180; CAG34081.1; -.

R InterPro; IPR003599; Ig.

R InterPro; IPR003599; Ig.-like.

R InterPro; IPR003596; Ig-V.

R InterPro; IPR003596; Ig-V.

R SMART; SM00409; IG; 2.

R SMART; SM00409; IG; 2.

R SMART; SM00406; IGV; 2.

R PROSITE; PS50835; IG_LIKE; 2.
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05-JUL-2004 (TREMBLrel. 2
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02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                           STRAIN=Balb/c
                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse)
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Submitted (SEP-2002) to the I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Honda T., Akahori Y., Kurosawa Y.; "Libraries of heavy-chain antibodies reflecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rissum=Spleen
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126 AA;
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131 AA;
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13845 MW;
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13476 MW;
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Rodentia;
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Cetartiodactyla;
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Chordata; Craniata; Vertebrata;
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actyla; Tylopoda;
                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.
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Camelidae; Camelus
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                                                                                                                                                                                                                                                                                                                                                                                   57 MOUSE
57 MOUSE
57 MOUSE
58 STANDARD;
59 P18528;
7 01-WOV-1990 (Rel. 16, Created)
77 01-WOV-1990 (Rel. 16, Last sequence update)
77 110-OCT-2003 (Rel. 42, Last annotation update)
78 T10-OCT-2003 (Rel. 42, Last annotation update)
79 T10-CT-2003 (Rel. 42, Last annotation update)
70 T10-CT-2003 (Rel. 42, Last annotation update)
71 T10-CT-2003 (Rel. 42, Last annotation update)
71 T10-CT-2003 (Rel. 42, Last annotation update)
72 T10-CT-2003 (Rel. 42, Last annotation update)
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Best Local S
Matches 13
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CAG34081;
01-JUN-2004 (TrEMBLrel. 27,
01-JUN-2004 (TrEMBLrel. 27,
01-JUN-2004 (TrEMBLrel. 27,
InterPro;
Pfam; PF00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    anti-M2 receptor antibody frag
Submitted (JTW-2004) to the EM
EMBL; AJ746180; CAG34081.1; -.
NON_TER 1
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                  PIR; JT0501; HVMS96.
HSSP; P01783; 1IGC.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                       primary immune response.";

J. Exp. Med. 169:2007-2019(1989).

-!- MISCELLANEOUS: This sequence belongs to the VH7183

-!- SIMILARITY: Contains 1 immunoglobulin-like domain.
                                                                                                                                                                                               MEDLINE=89279149; PubMed=2499654; Levy N.S., Malipiero U.V., Lebecque "Early onset of somatic mutation in
                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peter J.C., Wallukat G., Tugler J., Mauric
Briand J.P., Hoebeke J.;
"Modulation of the M2 muscarinic receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
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Rodentia;
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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RESULT 22
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Immunoglobulin V region.
ICOMAIN 1 >98
SEQUENCE 98 AA; 11007 MW; E
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02-MAR-2004
02-MAR-2004
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02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Under annotation update)
EMBL; AI
NON_TER
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Submitted
                                                                                             "Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, Immunoglobulin heavy chain '
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                           TISSUE=Spleen;
Honda T., Akahori Y.,
                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                  Camelus dromedarius 
Eukaryota; Metazoa;
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"Libraries of heavy-chain antibodies
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tted (SEP-2002) to the EMBL/GenBank/DDBU
AB092157; BAD00519.1; -.
                                                                      AB092055; BAD00417.1;
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Chordata; Craniata; Vertebrata; Eutel
Cetartiodactyla; Tylopoda; Camelidae;
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                                                                                                                                                                                           Kurosawa Y.;
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, Last annotation update)
VHDJ region (Fragment).
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Pred. No.
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Pred.
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BAD00403;
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BAD00474;
                                                                                                                                              Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AB092041; BAD00403.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
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Submitted (SEP-2002) to the EMBL/GenBank/DDBJ
EMBL; AB092112; BAD00474.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
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Honda T., Akahori Y.,
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                                                                                                                                                                                                                                                       TISSUE=Spleen;
                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Libraries of heavy-chain antibodies reflecting camel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IGVH
  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 ISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VSSSGSTTYYTDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDSSGRGTYYADSVKG 66
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125
125 AA;
                                                                                    128
128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               123
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llarity 75.0%;
Conservative
  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₹
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13496 MW;
                                                                                    128
13716 MW;
                                                                                                                                                                                                                                                                                                                                           (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (Dromedary) (Arabian camel). Chordata; Craniata; Vertebra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13316 MW;
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75.0%;
                      71.9%;
75.0%;
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Score 64; DB
Pred. No. 0.04
2; Mismatches
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Pred.
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Pred.
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                                                                                    69AB271259B0A2BF CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         65B6C5D18114730D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
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                        0.044;
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                                          DB 2;
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                                        Length 128;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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RESULT 26
HV3L HUMAN
ID HV3L HI
AC P01773
AC P01773
DT 21-JUL
DT 05-JUL
DT 105-JUL
DT 105-JU
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BAD00240
ID BAD000
AC BAD0
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Best Local S
Matches 12
pir; A02056; AlHUBR.
HSSP; P01772; 2FB4.
GO; GO:0005576; C:extracellular; NAS.
GO; GO:0005823; F:antigen binding; NAS.
GO; GO:0006955; P:immune response; NAS.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
Direct protein sequencing; Glycoprotein
Pyrrolidone carboxylic acid.
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02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE (MYELOMA PROTEIN BUR):
MEDLINE=79151016; PubMed=107164;
Putnam F.W., Liu Y.-S.V., Low T.L.K.;
Putnam F.W., Liu Y.-S.V., Low T.L.K.;
"Primary structure of a human IgA1 immunoglobulin. IV. Streptococcal
"BA1 protease, digestion, Fab and Fc fragments, and the complete amia
cid sequence of the alpha 1 heavy chain.";
J. Biol. Chem. 254:2865-2874(1979).
-1. SIMILARITY; Contains 1 immunoglobulin-like domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   p01773;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
Ig heavy chain V-III region BUR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Peripheral blood;
Honda T., Akahori Y., Kurobawa Y.;
Honda T., Akahori Y., Kurobawa Y.;
"Libraries of heavy-chain antibodies reflecting camel ga
gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB091878; BAD00240.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NON TER
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus
NCBI TaxID=9818.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
Eukaryota, Metazoa, C
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CBI_TaxID=9838;
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12; Conservative
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75.0%;
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, Last annotation update)
VHDJ region (Fragment).
                                                  Glycoprotein;
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Pred. No.
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on update)
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0.045;
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                                                                                        Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
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Submitted (SEP-2002) to the EMBL/GenBank/DDBJ
EMBL; AB092130; BAD00492.1; -.
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Mammalia; Eutheria;
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
1 mmunoglobulin heavy chain VHDJ region (Fragment).
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Mammalia; Eutheria;
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"Libraries of heavy-chain antibodies reflecting
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(TIRMBLrel. 27, Last sequence update)
(TIRMBLrel. 27, Last annotation update)
Lin heavy chain VHDJ region (Fragment).
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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Pred. No. 0.05:
2; Mismatches
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Pyrrolidone carboxylic acid.
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Submitted (SEP-2002) to the EMBL/GenB EMBL; AB092148; BAD00510.1; -.
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                             TISSUE=Spleen;
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Mammalia; Eutheria;
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126
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70.8%;
nilarity 75.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126 AA;
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                                                                        AA;
                                                                                                                                                                                                                                                                                                                                                                heavy chain
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A
                                                                      126
13665 MW;
                                                                                                                                                                                                                                                                                       (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata;
Cetartiodactyla; Tylopoda; Camel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13500 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13593 MW;
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                                                                                                                                                                                                   Kurosawa Y.;
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VHDJ region (Fragment).
pred. No. 0.06
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Pred. No.
                                                                                                                                             EMBL/GenBank/DDBJ
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Pred.
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                                                                          A8358DFDFBFB8F6E CRC64;
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                  DB 2;
0.063;
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                                                                                                                                                                                                                                                                                         rata; Euteleostomi;
Camelidae; Camelus
                                   Length 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
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Best Local S
Matches 12
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Best Local (
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BAD00691;
02-MAR-2004
02-MAR-2004
                                                                                                                                                                         NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                 TISSUB=Spleen;
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gagamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092329; BAD00691.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Honda T., Akahori Y., Kurosawa Y.; "Libraries of heavy-chain antibodies reflecting camel gamma3 in vivo repertoires."; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ database
                                                                                                                                                                                                                                                                                                                                                                                                                                         Camelus dromedarius (Dromedary) (Arabian camel).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Camelus dromedarius
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IGVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9838;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  51
51
                                                                                   1 Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N
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12; Conserv
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                         ISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IVSGGDSTYYADSVKG 67
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  INTGGGVTYYSDSVKG
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127 AA;
                                                                                                                                                                         130
130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                         14108 MW;
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75.0%;
                                                                                                        70.8%;
75.0%;
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  66
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                                                                                   2
                                                                                   Score 63; DB
Pred. No. 0.06
2; Mismatches
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Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                         AF39AA4B9A8A8645 CRC64;
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                                                                                                                             DB 2;
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                                                                                                          065;
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                                                                                     2;
                                                                                                                             Length 130;
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                                                                                     Indels
                                                                                                                                                                                                                                                                                                         gamma2
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RESULT 34
AAL35871
ID AAL35
AC AAL35
AC 02-W2
DT 02-W2
DT 02-W2
DT 02-W3
DT 1mmur
OS Lamma
OC Lamma
OC MAMMA
OC MAMMA
OC NCBI
RN [1]
RN [1]
RN [1]
RN [1]
RN FINN
RT MEDL,
RA Tanha
RT heavy
RL J. IT
DR RNBL,
FT NON
FT NON
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                                                                                                                                                                                                                                                                                                                                                                                   RESULT 33
HV58_MOUSE
ID HV58_MOUSE
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Best Local S
Matches 13
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PDB; 1181; X-ray; B=20-117.

PDB; 118K; X-ray; B=20-117.

InterPro; IPR007110; Ig-like.

InterPro; IPR003596; Ig_v.

Pfam; PF00047; ig; 1.

SMART; SM00406; IGv; 1.

PROSITE; PS50835; IG_LIKE; 1.

DD-Structure; Immunoglobulin V
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NON_TER
SEQUENCE
                                                                                                                                                                                                              AAL35871;
                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
DOMAIN
DOMAIN
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01-NOV-1990 (Rel. 16, Last sequence update)
01-OCT-2004 (Rel. 45, Last annotation update)
Ig heavy chain V region 5-76 precursor.
Mus musculus (Mouse)
           MON_TER
                                 MEDIINE=22007448; PubMed=12009207; Tanha J., Dubuc G., Hirama T., Narang S.A., "Selection by phage display of llama conven heavy chain antibody V(H)H properties."; J. Immunol. Methods 263:97-109(2002).
                                                                                                                             Immunoglobulin heavy chain variable domain (Fragment).
Lama glama (Llama).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
                                                                                                                                                                           02-MAR-2004 (TrEMBLrel.
02-MAR-2004 (TrEMBLrel.
02-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
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NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primary immune response.";
J. Exp. Med. 169:2007-2019(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=89279149; PubMed=2499654;
Levy N.S., Malipiero U.V., Lebecque S.G.,
"Early onset of somatic mutation in immun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. STRAIN=BALB/cJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10090
                                                                                                                CBI_TaxID=9844;
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                        AF442940;
                                                                                                                                                                                                                                                                                      70
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                                                                                                                                                                                                                                                                                     ISSGGLYTYYPDSVKG
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69
86
41
117 AA;
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                                                                                                                                                                                                                           PRELIMINARY;
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                        AAL35871.1;
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54
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117
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27,
27,
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                                                                                                                                                                                                                                                                                                                                                                                  MW;
                                                                                                                                                                                                                                                                                      85
                                                                                                                                                                           Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                              Score 62;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     V region; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                        Complementarity-determining-2. Framework-3.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Complementarity-determining-1. Framework-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ig heavy chain V region 5-76. Framework-1.
                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                   93A04782B78B8FA0 CRC64;
                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               belongs to the VH7183 subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S.G., Gearhart P.J.; immunoglobulin VH ge
                                                         g S.A., MacKenzie C.
                                                                                                                                                                                                                            118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                117
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                                                                                                                                                                                                                                                                                                                                                           DB 1;
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                                                          fragments with
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RESULT 36
BAD00388
ID BAD00
AC BAD00
AC BAD00
AC BAD00
DT 02-MA
DT 02-MA
DT 02-MA
DT 02-MA
CT 02-MA
CT 02-MA
DT 1GWH.
OS Camell

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BAD00234
ID BAD00
AC BAD00
DT 02-MA
DT 02-MA
DT 02-MA
DT 02-MA
CON IGNY
OC CAMELI
OC EUKAR
OC MAMMA
OC SEQUE
RA HONDA
RA HONDA
RA HONDA
RT GAMMA
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Query Match
Best Local S
Matches 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BAD00388;
BAD00388;
02-MAR-2004
02-MAR-2004
02-MAR-2004
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02-MAR-2004
02-MAR-2004
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NON_TER
SEQUENCE
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                                                                                                              NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oz-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BAD00234;
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                                                                                                                                                                                gamma3 in vivo repertoires."
Submitted (SEP-2002) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Peripheral blood;
Honda T., Akahori Y., Ku
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Camelus dromedarius
                                                                                            SEQUENCE
                                                                                                                                                              EMBL;
                                                                                                                                                                                                                           Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting
                                                                                                                                                                                                                                                                     rissum=Spleen;
                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                    Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                 Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Libraries of heavy-chain antibodies reflecting camel gamma2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         mmunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                           AB092026; BAD00388.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AB091872; BAD00234.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 ISSGGSGTYYSDSVKG
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                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INTSGRGTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     123
123 AA;
                                                                                       124
124
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
in heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
Conservative
                                                                                         AA;
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A
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13333 MW;
                                                                                                                                                                                                                                                                                                                                                               (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12594 MW;
                                                                                         13593 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69.7%;
64.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               69.7%;
                     69.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Dromedary) (Arabian camel)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17
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3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
••
Score 62; DB
Pred. No. 0.08
2; Mismatches
                                                                                                                                                                                EMBL/GenBank/DDBJ
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Pred.
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                                                                                         F7DBFF7671BA0A0C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9BEFD170BC27D18F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No.
                       No. 0.089;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.084;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 2;
                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .088;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        $
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                                                                                                                                                                                   databases
                                          Length 124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 123;
                                                                                                                                                                                                                             camel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
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Indels
                                                                                                                                                                                                                             gamma2
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Gaps
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RESULT 37
BADDOGO6
ID BADDOG
AC BADD
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Q6DDQ7

ID D7

Q6

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Best Local S
Matches 11
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02-MAR-2004
02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092244; BAD00606.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q6DDQ7;
01-OCT-2004 (TrEMBLrel.
01-OCT-2004 (TrEMBLrel.
01-OCT-2004 (TrEMBLrel.
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausmer R.D., Collins F.S., Magner L., Shenmen C.M., Schuler G.
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amphibia; Batrachia; Chordata; Craniata; Vertebrata; Euteleostomi;
Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hypothetical protein.
Xenopus laevis (African clawed frog)
Eukaryota, Metazoa, Chordata, Crania
                                                                                                                                                                                                                             TISSUE=Spleen;
PubMed=12477932;
                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Richardson P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q6DDQ7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutelo
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Camelus dromedarius
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update
02-MAR-2004 (TrEMBLrel. 27, Last annotation update
Immunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BAD00606
                                                                                                                                                                                                                                                                                                                                                                                           initiative."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Klein S.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=22341132; PubMed=12454917;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rissum=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=8355;
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                                                                                                                                                                                                                                                                                                                                                                                                                             "Genetic and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Strausberg
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Pred. No. 0.098;
3; Mismatches
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                                    T.E.,
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BAD00422;
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SEQUENCE
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AAI35869;
02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain variable domain (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tanha J., Dubuc G., Hirama T., Narang S.A., MacKenzie C.R.; Selection by phage display of llama conventional V(H) fragments with heavy chain antibody V(H)H properties."; J. Immunol. Methods 263:97-109 (2002). EMBL; AF442938; AAL35869.1; -
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
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l Similarity 75.0%; Pred. No. 0.48;
12; Conservative 1; Mismatches
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117 AA; 12455 MW;
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                 (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
Lin heavy chain VHDJ region (Fragment).
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0.12;
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Matches 11
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"Libraries of heavy-chain antibodies reflecting camel gagamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
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TISSUE=Spleen;
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Mammalia; Eutheria;
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57
                                                                         6 GSGTYYSDSVKG
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                                                                                                                                                                                                           Similarity
GSGTYYADSVKG
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119 AA;
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                  68.5%;
91.7%;
83
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    Mismatches

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Pred. No.
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3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2003s:*
6: geneseqp2003bs:*
7: geneseqp2003bs:*
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	80	7	6	vı	4	ω	N	1	Result No.
37	37	37	37	37	37	37	37	38	40	42	54	54	54	54	54	54	54	54	54	54	54	54	54	54	Score
68.5	•	68.5	68.5	68.5		8	68.5	70.4	74.1	77.8	100.0	100.0	100.0	100.0	100.0	•	100.0	•	•	100.0	100.0	•	100.0	100.0	Query
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Query Match 100.0%; Score 54; DB 4; Length 10; Best Local Similarity 100.0%; Pred. No. 0.0016; Matches 10; Conservative 0; Mismatches 0; Indels

0

Gaps

SQ Sequence 10 AA;	The present invention describes a monoclonal ant specifically with ganglioside GD3. The antibody useful in the diagnosis and therapy of tumours, diagnosis. The present sequence is a protein use of the invention	PS Claim 5; Page 141; 183pp; Japanese.	PT New human type complementation-determining region-transplanted antibody PT and derivatives against ganglioside GD3, useful in diagnosis and therapy PT of e.g. tumors, with low antigenicity, little side effects but potent PT activity in cancer.	DR WPI; 2001-266143/27.	PI Hanai N, Shitara K, Nakamura K, Niwa R;	AA PA (KYOW) KYOWA HAKKO KOGYO KK. YY	PR 30-SEP-1999; 99JP-00278291. PR 06-APR-2000; 2000JP-00105088.	PF 29-SEP-2000; 2000WO-JP006774.	PD 05-APR-2001.	PN WO200123432-A1.	OS Mus musculus.	KW Ganglioside; GD3; complementarity determining region; CDR; KW cancer. XX	DE Ganglioside GD3 specific antibody related peptide SEQ ID	DT 03-JUL-2001 (first entry)	AC AAB81981;	RESULT 1 AAB81981 ID AAB81981 standard; peptide; 10 AA.	ALIGNMENTS	26 37 68.5 393 4 AAB88481 Aal 27 37 68.5 685 7 AB064573 Ab 28 37 68.5 2022 6 ABR63232 Ab 28 36 66.7 160 5 ABP30519 Ab 30 36 66.7 150 5 ABP30510 Ab 31 36 66.7 257 3 AA609510 Aa 32 36 66.7 257 3 AA609547 Aa 33 36 66.7 258 8 AAP48546 Aa 34 36 66.7 260 3 AA648546 Aa 35 36 66.7 260 3 AA648540 Aa 36 66.7 361 4 AAB75213 Aa 37 36 66.7 361 4 AAB75213 Aa 38 36 66.7 361 4 AAB75213 Aa 40 36 66.7 389 3 AA648542 Aa 41 36 66.7 389 3 AA648541 Aa 42 36 66.7 389 3 AA648541 Aa 43 35 64.8 23 5 AAP46121 Aa 44 35 64.8 23 5 AAP46121 Ab 45 . 35 64.8 23 7 ADG97892 Ad 46 Aa 47 AA
	ibody which can react and its derivatives are particularly cancer id in the exemplification		lanted antibody osis and therapy ts but potent									R; antibody;	NO: 5.					Aab88481 Human mem Abo64573 Klebsiell Abr63232 Glucansuc Abp30519 Streptoco Abp26309 Streptoco Aag48547 Arabidops Ad446472 Thermococ Aag48546 Arabidops Aag48543 Arabidops Aag48543 Arabidops Aag48543 Arabidops Aag48543 Arabidops Abb67540 Drosophil Aab75213 Drosophil Aab75213 Drosophil Aab75213 Trosophil Aab75213 Trosophil Aab76112 C. neofor Aag48541 Arabidops Aag48541 Arabidops Abg48541 Arabidops Abg48541 Arabidops Abg48541 Arabidops Abg47665 Human BLy Abg47665 Human BLy Adg97892 scFV VHCD

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RESULT 2
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                                                 Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                             Ganglioside GD3
                                                                                                                                                                       03-JUL-2001
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                                                                                                                                                                                                                                         Ganglioside
                                                                                                                                                                                                                     Ganglioside; GD3;
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                               WPI; 2001-266143/27.
                                                  Hanai N,
                                                                                           30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy

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                                                                                                                                                                                                                                               Claim 7; Page 112-113; 121pp; Japanese.
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                                                                                             Sequence 119
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                                         Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antibody; tumour; melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 4;
0.023;
                                                                                                                                                                                                                                                                                                                                                             <u>.</u>
                                                                 DB 6; Length 119;
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                                        Indels
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RESULT 6
ABULLO10
ID ABULL
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RESULT 7
AAR33256
ID AARR
XX AAR3
AC AAR3
XX
DT 25-M
DT 12--J
XX
DE Rat
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XW Prom
XW Prom
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XX
OS Ratt
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents i combination, applicable in treating malignant tumor like melanoma.
                                                                                                                 Promoter; variable; region; rat; immunoglobulin; heavy; H; chain;
                                                                                                                                                                       Rat immunoglobulin H chain varible region of pKM641HA3
                                                                                                                                                                                                                                25-MAR-2003
12-JUL-1993
                                                                                                                                                                                                                                                                                                                      AAR33256;
                                                                                                                                                                                                                                                                                                                                                                            AAR33256 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 8; Page 99; 121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-067410/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-MAR-2001; 2001JP-00097483.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-MAR-2002; 2002WO-JP003170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200278739-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified ganglioside GD3 antibody associated protein #3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-FEB-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABU11010 standard; protein; 119
                                                                                   humanised; chimeric;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (КУОМ ) КУОМА НАККО КОСУО КК.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99. VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99 VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GD3; anti-ganglioside GD3 antibody; tumour; melanoma.
                                                                                                                                                                                                                                (revised)
(first en
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                            protein;
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                                                                                                                                                                                                                                   entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kanazawa
                                                                                      antibody; expression
                                                                                                                                                                                                                                                                                                                                                                               130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 54; DB 6;
Pred. No. 0.023;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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Rattus rattus.

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                                                                                                                                                                                                                                                                           RESULT 8
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Best Local 9
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                                                                                                        Key
Peptide
                                                                                                                                                                                                                                                                                                                                                                                                            The sequences given in AAR33256-57 represent rat heavy and light chain variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression vectors. In these humanised antibodies none of the amino acids of the non vectors. Ab variable region have been changed. (Updated on 25-WAR-2003 to correct we find a region have been changed.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Humanised chimeric antibody prodn. against ganglioside cancers, such as melanoma, neuroblastoma, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP533199-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Кeу
                   07-SEP-1992;
                                      07-SEP-1993;
                                                                              AU9346181-A
                                                                                                                                      Mus musculus
                                                                                                                                                        constant region;
                                                                                                                                                                   expression
                                                                                                                                                                                              KM641 L chain variable region
                                                                                                                                                                                                                                      AAR53341;
                                                                                                                                                                                                                                                       AAR53341 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 6; Page 29-30; 63pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-SEP-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
                                                           17-MAR-1994.
                                                                                                                                                                             Monoclonal
                                                                                                                                                                                                                   18-NOV-1994
  (KYOW ) KYOWA
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                                                                                                                                                                                                                                                                                                        109
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                                                                                                                                                                                                                                                                                                                                                                                                      correct PN field.)
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                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                    130
                                                                                                                                                                                                                                                                                                                          VKLGTYYFDS 10
                                                                                                                                                                                                                                                                                                                                                                                                                                          ences given in AAR33256-57 regions respectively. The
                                                                                                                                                       antibody; Ab; ganglioside GM2; chimera; chimeric antibody;
vector; heavy; light; chain; hypervariable region; CDR;
egion; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                  (first entry)
  HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91JP-00238375
                    92JP-00238452
                                       93AU-00046181
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                                                                                               /label=
                                                                                                                   Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
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                                                                                                                                                                                                                                                                                                        118
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  KOGYO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hasegawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Mature protein"
                                                                                               sig_peptide
                                                                                                                                                                                                                                                        130
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                                                                                                                                                                                                                                                                                                                                                       Score 54,
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptide"
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                                                                                                                                                                                                                                                                                                                                                      DB 2;
                                                                                                                                                                                                                                                                                                                                              0;
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                                                                                                                                                                                                                                                                                                                                                                Length 130;
                                                                                                                                                                                                                                                                                                                                              Indels
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RESULT 9
AAY28369
JID AAY28
AAY28369
JID AAY28
AAY28369
AAY2840
AAY284
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Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 2 describes the construction of the vector pChi641HAl for chimeric human antibody H chain expression. mRNA from mouse anti-GD3 monoclonal Ab KW641-producing cells was isolated and KW641 H and L chain cDNAs isolated. The base sequences of the Ig variable regions in KW641 H chain cDNA (pKM641HA3) and KM641 L chain cDNA (pKM641LA2) are given in AAQ45438-39. A KW641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKM641HA3 to a vector for chimeric human Ab H chain expression using the synthetic DNAs given in AAQ63439 and AAQ63440
                    This immunoglobulin region was isolated from pKM641HA3. This sequence no methionine initiation codon and the leader sequence was partly lacking. The chimeric human antibodies are useful in the treatment of cancer, especially that which is of neural ectodermal origin. In contr to prior art constructs based on mouse monoclonal antibodies, the chimeric human antibodies do not cause anti-mouse immunoglobulin
                                                                                                                                                                                              Example 1; Col 99-101; 188pp; English.
                                                                                                                                                                                                                                               Chimeric human antibody expression vectors.
                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                      Nakamura K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-JUN-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibody; nucleotide; genomic; hypervariable region; chimeric;
light chain; amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PKM641 HA3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-NOV-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cytocidal
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                                                                                                                                                                                                                                                                                                                                                                                                                       (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US5939532-A
                                                                                                                                                                                                                                                                                               1999-468416/39.
DB; AAX99482.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAQ45439
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunoglobulin heavy
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                                                                                                                                                                                                                                                                                                                                                                      Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93US-00116778
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                                                                                                                                                                                                                                                                                                                                                                      Kuwana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            130
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ganglioside GM2 - used for phas melanoma, neuroblastoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             chain.
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                                                                                                                                                                                                                                                                                                                                                                      Hasegawa M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.026;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ب</u>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                         Koike
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                                                                                                                                                                                                                                                                                                                                                                           Shitara
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a and glioma.
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                    Query Match 100
Best Local Similarity 100
Matches 10; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                    The present sequence is a murine immunoglobulin heavy chain variable region from plasmid KM-641. The coding sequence was used in the creation of an expression vector, along with the sequence for a human antibody, to produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side effects, such as the formation of anti-mouse immunoglobulin antibody and the rapid half-life of the immunoglobulins, do not occur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus
                                                                                                                                                                                                               New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with ganglioside and human antibody constant region.
                                                                                                                                                                                         Claim 14; Page 27-28; 65pp; English.
                                                                                                                                                                                                                                                                                                Shitara K,
                                                                                                                                                                                                                                                                                                                                             18-SEP-1991;
18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                            EP1013761-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Murine immunoglobulin heavy chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB01627;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a reduced frequency antibodies
                                                                Sequence 130
                                                                                                                                                                                                                                                                                                                                                                                18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mouse; immunoglobulin; H chain; heavy chain; variable region; cancer;
                                                                                                                                                                                                                                                                                                                        (КУОМ ) КУОМА НАККО
                                                                                                                                                                                                                                                              2000-402204/35.
)B; AAA51003.
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VKLGTYYFDS 10
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92EP-00116026.
                                                                                                                                                                                                                                                                                                                                                                              99EP-00124345
                                                                                                                                                                                                                                                                                                                                                                                                                                     11. .130
/label= mature_immunoglobulin_heavy_chain_variable region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label=_signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein;
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                              100.0%;
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                                                                                                                                                                                                                                                                                                Hasegawa
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                    Score 54; DB
Pred. No. 0.0
); Mismatches
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Pred. No.
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                                                                                                                                                                                                                                                                                                Miyaji H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2;
                              0.026;
                                            DB 3;
                                                                                                                                                                                                                                                                                                 Kuwana Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>,</u>
                                         Length 130;
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                      Indels
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                     0
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RESULT 11
AAB81977
ID AAB8197
ID AAB81977
ID AAB81977
ID AAB81977
ID AAB81977
ID AAB8197
ID
RESULT 12
ABU11002
ID ABU11
XX
ABU11
XX
ABU11
XX
AC ABU11
XX
DT 04-FE
XX
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KW Gangl
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PN WO20(
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                        Mus musculus.
                                                                                                         Ganglioside GD3; anti-ganglioside GD3 antibody; tumour; melanoma
                                                                                                                                                       Modified ganglioside GD3
                                                                                                                                                                                                             04-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 138 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                ABU11002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (KYOW ) KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-APR-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ganglioside
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                                                                                                                                                                                                                                                                                                                 ABUll002 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Page 138-139; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-SEP-2000; 2000WO-JP006774.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                118
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                                                                                                                                                                                                                                                                                                                                                                                                                                          VKLGTYYFDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GD3 specific antibody related protein SEQ ID NO:
                                                                                                                                                                                                          (first entry)
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                                                                                                                                                                                                                                                                                                                 protein;
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                                                                                                                                                         antibody
                                                                                                                                                                                                                                                                                                                 138
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Pred. No. 0.028;
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                                                                                                                                                         associated protein
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RESULT 13
AABB1987
ID AABB1
XX AABB1
XX AABB1
XX O3-JU
DT 03-JU
DX Gangl
KW Cance
XX Synth
XX WO200
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XX WO200
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XX WO3-AF
XX WO4
PF 30-SF
PR 30-SF
PR 30-SF
PR WPI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapp of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                      30-SEP-1999;
06-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 3; Page 97; 121pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-MAR-2002; 2002WO-JP003170
                                                                                                                                                                                              29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                                                           05-APR-2001.
                                                                                                                                                                                                                                                     WO200123432-A1
                                                                                                                                                                                                                                                                                                                         Ganglioside;
                                                                                                                                                                                                                                                                                                                                                  Ganglioside GD3 specific antibody related protein SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                               03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB81987 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 138 AA;
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                                                                     WPI; 2001-266143/27.
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                                                                                                                           KYOWA HAKKO
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                                                                                               Shitara
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                      99JP-00278291.
2000JP-00105088.
                                                                                                                                                                                                                                                                                                                         GD3;
                                                                                                                                                                                                                                                                                                                                                                               (first entry)
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                                                                                                                                                                                                                                                                                                                        complementarity determining
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                                                                                                 Nakamura
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Pred. No.
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                                                                                                 Niwa
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                                                                                                                                                                                                                                                                                                                        region; CDR; antibody;
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                          and therapy
                                                                                                                                                                                                                                                                                                                                                     53
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Matches 10; Conserv
                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                      specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                       New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 582 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 41; Page 168-172; 183pp; Japanese
                                                                  Sequence 582 AA;
                                                                                                                                  The present invention describes a monoclonal antibody which can
                                                                                                                                                        Claim 39; Page 175-179; 183pp; Japanese.
                                                                                                                                                                                                                                     WPI; 2001-266143/27.
                                                                                                                                                                                                                                                          Hanai N,
                                                                                                                                                                                                                                                                                                     30-SEP-1999; 99JP-00278291
06-APR-2000; 2000JP-00105088
                                                                                                                                                                                                                                                                                                                                    29-SEP-2000; 2000WO-JP006774
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                                                                                                                                                                                                                                                                                                                                                                                 WO200123432-A1
                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ganglioside;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ganglioside
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB81991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB81991 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of the invention
                                                                                                                                                                                                                                                                                (KYOW ) KYOWA HAKKO KOGYO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99 VKLGTYYFDS 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 VXLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10; Conservative
                        10;
  1 VKLGTYYFDS
                                   Similarity
                                                                                                                                                                              in cancer.
                                                                                                                                                                                                                                                          Shitara K,
                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GD3 specific antibody related
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                                                                                                                                                                                                                                                                                                                                                                                                                                       GD3; complementarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein;
  10
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                                  100.0%;
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                                                                                                                                                                                                                                                          Nakamura
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Pred. No.
                                  Score 54;
Pred. No.
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                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                       determining region; CDR; antibody;
                                                                                                                                                                                                                                                           Niwa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; DB 4;
. 0.13;
                                   0.13;
                                                                                                                                                                                                                                                           R,
                                              DB 4;
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                                              Length 582;
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                                                                                                     exemplification
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99

VXLGTYYFDS

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ARBSULT 15
AAR34284
AC AAR34
A
Query Match
Best Local Similarity
Matches 7; Conserv
                                                                                                                                                              The sequence is that of the heavy chain VHLM2 which shows minimal differences compared with the germline DP-46, which is of the VH3 family. It may be used as part of a method of producing chimeric mouse-human antibodies or fragments which have the same binding specificity as a parent Ab but have increased human characteristics, preventing antiglobulin response in humans. (Updated on 25-MAR-2003 to correct PN
                                                                                                                                                                                                                                                                                                                                                                                                               Producing human antibody polypeptide dimer specific for antigen comprises use of chain shuffling using phage expression, useful reducing anti globulin responses in humans for increased human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-SEP-1991;
25-SEP-1991;
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                                                                                                                                                 globulin response field.)
                                                                                                                                                                                                                                                                                                                                           Example; Fig 6; 109pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1993-117534/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-MAR-1992;
24-MAR-1992;
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26-JUL-1993
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hoogenboom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Monoclonal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CAMB-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDICAL RES COUNCIL.
CAMBRIDGE ANTIBODY T
                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antibody; anti-globulin response; VH gene; chimeric;
n antibodies; antibody; prevention; tumour necrosis factor.
       Conservative
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(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91GB-00020252.
91GB-00020377.
92GB-00006318.
92GB-00006372.
92WO-GB000883.
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67. .91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'note= "Framework region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note= "Framework region FR1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Baier M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ANTIBODY TECHNOLOGY.
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49
                           77.8%;
87.5%;
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66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Complementarity determining
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Complementarity determining
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jespers LSAT,
     :
                         Score 42; DB
Pred. No. 4.6;
       Mismatches
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     Indels
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RESULT 16
ADQ26346
ID ADQ263
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XX ADQ26
XX ADQ26
XX Chrom
XX Haemo
OS Chrom
XX Chrom
XX Chrom
XX I6-DE
X
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Almeida FC, De Almeida R, Antonio RV, Araripe JR, De Arujo MFF;
Almeida FC, De Almeida R, Antonio RV, Araripe JR, De Arujo MFF;
Bogo RM, Bonatto SL, Brigido MDM, De Brito CFA, Brochi M, Burity HA
Camargo A, Carraro D, Carvalho CMB, Cascardo JCDM, Cavada BS;
Chueire LMDO, Da Cunha MH, Fantinatti F, Farias IP, Felipe MSS;
Ferrari LP, Ferro JA, Franco GR, De Freitas NSA, Furlan LR;
Gattapaglia D, Gazinelli RT, Gomes JAA, Goncalves RR, Grangeiro TB;
Gattapaglia D, Gazinelli RT, Gomes JAA, Goncalves RR, Grangeiro TB;
Grisard EC, Guimaraes CT, Hanna ES, Jardim SN, Laurino JP, Lima LFA
DE Lyza MDCCP, Madeira HMF, Maranhao AQ, Manfio GP, Martins WS;
FI De Medeiros SRB, Meissner RDV, Moreira MA, Do Nascimento FF;
Nicolas MF, De Oliveira JG, Oliveira SC, Paixao RFC, Parra J;
FI Nicolas MF, De Oliveira JG, Oliveira SC, Paixao RFC, Parra J;
FI Rondinelli E, Sampaio AH, Dos Santos FR, Schneider MPC, Silva DW;
Steindel M, Teixeira SMR, Trevilato PB, Urmenyi TP, Wassen R;
Azevedo V, Bartoleti LA, Batista JDS, Filho AS, Zaha A;
Andrade EDRM, Gonzaga L, Dos Santos EBP, Soares RDBA, Bataus LAM;
                                                                                       The present sequence is that of the protein encoded by the CV44287 gen of Chromobacterium violaceum strain ATC 12472 (NCIB 9131, NCTC 9757, 1249, DSM 30191, IAM 12470, LMG 1267). The invention relates to 29 polymucleotides that have been identified by sequencing the genome of this strain, to the polypeptides ADQ26328-ADQ26356 encoded by these polymucleotides and to the uses of the polymucleotides and polypeptid for therapeutic, diagnostic, medicinal, pharmacological and pharmacognostic applications, in control processes for environmental pharmacters, and in enzyme synthetic processes. The CV44287 gene is involved in haemolytic activity. The gene and the encoded polypeptide entities of the production of haemolysins for pharmaceutical use as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New gene-coding polynucleotides of the chromosome of Chromobacterium violaceum, useful for therapeutic, diagnostic or pharmacological applications, in control processes for environmental parameters or in enzyme synthesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Andrade EDRM,
Cardoso DDFDP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  De Vasconcelos ATR,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chromobacterium violaceum CV44287 involved in haemolysin synthesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-SEP-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2004-500292/47.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4; SEQ ID NO 19; 31pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dos Santos EBP, Soares R
, Rigo LU, Steffens MBR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Abreu HNS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  De Almeida DF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    es PR, Grangeiro TB;
Laurino JP, Lima LF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    r MPC, Silva DW;
Souza RC;
P, Wassen R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bataus LAM;
                                                                                                                                                                                                                                                                      polypeptides
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ARESULT 17
AAU74519
ID AAU74
XX AAU74
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Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for example, to produce a glucan with sucrose as a substrate and optionally a fructan as a probiotic or symbiotic. This sequence represents L. reuteri glucosyltransferase A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to a Lactobacillus reuteri glucosyltransferase A (gtfA) polypeptide. This polypeptide produces a glucan with a unique structure having 4-linked, 6-linked and 4,6-linked anhydroglucose units or, in the presence of suitable acceptors, oligosaccharides. The protein can be used to produce an oligosaccharide or polysaccharide of interest,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein with glucosyltransferase activity derived Reuteri.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glucosyltransferase A; gtfA; glucan; anhydroglucose; sucrose; oligosaccharide; polysaccharide; sucrose; fructan; symbiotic; probiotic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAU74519;
Bacterial polypeptide #2616
                                                             12-FEB-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1781 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 3; Page 48-55; 59pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Van Geel Schutten GH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-MAY-2000; 2000EP-00201871.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-MAY-2001; 2001WO-NL000393.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-NOV-2001.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lactobacillus reuteri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lactobacillus reuteri glucosyltransferase A (gtfA) polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAU74519 standard; protein; 1781
                                                                                                                    ADF06503
                                                                                                                                                                   ADF06503 standard; protein; 94 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (NEDE ) NEDERLANDSE ORG TOEGEPAST
                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity nes 6; Conserv
                                                                                                                                                                                                                                                                                                               1724 GTYYFDN 1730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2460 VKYGTFHFDS 2469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002-147583/19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAS20540.
                                                                                                                                                                                                                                                                                                                                                                       GTYYFDS 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74.1%;
ilarity 70.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                          (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         70.4%;
85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                              Score 38; DB 5;
Pred. No. 5.1e+02;
1; Mismatches 0
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Pred. No. 5.3e+02;
2; Mismatches 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1781;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         from Lactobacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Leer RJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                              0
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The invention relates to new Proteus mirabilis polypeptides and polypuncleotides. The invention also relates to antibodies against the polypeptides, methods for producing the polypeptides, a method of generating vaccines for immunising an individual against P. mirabilis, a method for evaluating a compound for the ability to bind a P. mirabilis polypeptide and a method for screening test compounds for anti-bacterial activity. The polypeptides and polynuclaotides are useful as molecular targets for diagnosing, preventing and treating pathological conditions resulting from bacterial infection, as reagents for diagnosis of bacterial diseases, as components of antibacterial vaccines, as targets for antibacterial drugs or as bio-control agents for plants. This sequence represents a Proteus mirabilis polypeptide of the invention.
Sequence 94 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New Proteus mirabilis polypeptides and polynucleotides, useful reagents for diagnosis of bacterial disease, as components of antibacterial vaccines, as targets for antibacterial drugs, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2003-895291/82.
N-PSDB; ADF02331.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; SEQ ID NO 6788; 870pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             biocontrol agents for plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Breton GL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-APR-2000; 2000US-00543681.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proteus mirabilis infection; bacterial infection; antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunostimulant.
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Query Match
Best Local Similarity
Watches 6; Conservi
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       30-JUN-1998;
                      24-JUN-2003
                                                  Enterococcus
                                                               Vaccine; urinary tract infection; bacteraemia; endocarditis; wound; abdominal-pelvic infection.
                                                                                                     01-JAN-2004
                                                                                                                                 ADC96455 standard; protein; 137
                                    US6583275-B1
                                                                                     faecium protein sequence SEQ ID 6082.
                                                                                                                                                                     21
                                                                                                                                                                             3 LGTYYFDS 10
                                                                                                                                                                     LGTYYYNS 28
                                                                                                                                                                                                  Conservative
                                                   faecium
                                                                                                     (first entry)
       98US-00107532
                                                                                                                                                                                                         68.5%;
                                                                                                                                                                                                  2; Mismatches
                                                                                                                                                                                                          Score 37;
Pred. No.
                                                                                                                                                                                                         DB
32;
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                                                                                                                                                                                                   Indels
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RESULT 20
ABOO0524
ID ABOO05
XX
AC ABOO0
XX
AC ABOO
XX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                          W Human; angiogenesis; cytokine; cell proliferation; pluripotent;
W cell differentiation; totipotent; stem cell; transplantation; bio-sensor;
W neuroepithelial cell; autoimmune disease; neural cell; genetic disorder;
W nerve; brain tissue; central nervous system disease;
W peripheral nervous system disease; neuropathy; haematopoiesis; bone;
W peripheral nervous system disease; pariodon;
W regeneration; cartilage; tendon; ligament; nerve tissue growth;
W regeneration; wound healing; burn; ulcer; osteoporosis; cancer;
W osteoarthritis; bone degenerative disorder; osteoporosis; cancer;
W osteoarthritis; bone degenerative disorder; reperfusion injury;
W immune deficiency; infection; autoimmune disorder; allergic reaction;
W thrombolysis; thrombosis; coagulation disorder; hereditary disorder;
W biorhythm; circadian cycle; fertility; metabolism; catabolism; anabolism;
N haemostatic; vulnerary; antiplarkinsonian; anticonvulsant;
N haemostatic; vulnerary; antiplarkinsonian; anticonvulsant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated nucleic acid derived from Enterococcus faecium encoding an 
Enterococcus faecium polypeptide useful for detection, prevention and 
treatment of a pathological condition resulting from a bacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-AUG-2003
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14-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel human polypeptide #111.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 KLGTYYFD 9
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KIGTYYHD 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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98US-0085598P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bush D;
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75.0%;
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Pred. No. 48;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 137;
immunosuppressive;
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conditions, such as between the commune describes and are useful for treating myeloid or regeneration of haematopolesis and are useful for treating myeloid or contract for regeneration of bone, cartilage, tendon, ligament and/or nerve tissue growth, in tissue repair, healing of burns, incisions, ulcers, for contracting osteoporosis, osteoarthritis, bone degenerative disorders, and periodontal disease. The polypeptides are also useful for gut protection or regeneration and treatment of lung or liver fibrosis, reperfusion controlleding severe combined immune deficiencies and disorders including severe combined immunedeficiency (SCID), bacterial or fungal conditions, autoimmune disorders (e.g., multiple sclerosis, rheumatoid conditions, such as asthma or other respiratory problems. The polypeptides are involved in thrombolysis or thrombosis and are useful in treatment of various coagulation disorders (including hereditary of the reauses. The polypeptides exhibit immune scimulating or immune concert. They also inhibit the growth, infection or function of infectious agents such as bacteria, fungi, viruses, effect biorhythms or circadian cycles of rhythms, fertility of male or female subjects, metabolism, catabolism, and anabolism. ABOO0014-ABOO0749 represent the novel control of the printed specification, but was obtained in celectronic format directly from WIPO at the printed specification, but was obtained in celectronic format directly from WIPO at the printed specification or function of this patent celectronic format directly from WIPO at the printed specification or the patent of the printed specification or the control of the printed specification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CC polymentides exchibit activities relating to angiogenesis, cytokine, cell conjugatides exhibit activities relating to angiogenesis, cytokine, cell conjugatides exhibit activities relating to angiogenesis, cytokine, cell conjugation, cell differentiation, antiinflammatory, and stem cell conjugation, cell differentiation, antiinflammatory, and stem cell conjugation activities. The polypeptides are involved in the cell conjugation and survival of pluripotent and totipotent conjugation, cells, and are useful for re-engineering damaged or diseased conjugation, cells, and are useful for re-engineering damaged or diseased conjugation of bio-sensors. The polypeptides can be used to manipulate conjugation of cells in culture to give rise to neuroepithelial cells and conjugation of the cells and regeneration of neuroepithelial cells that can be conjugated to augment or replace cells damaged by illness, autoimmune disease, conjugation of neurolatives, and the polypeptides induce the proliferation of neurolatives, such as Alzheimer's, parkinson's disease, conjugation of disease, amyotrophic lateral sclerosis (ALS). The conjugation of hasmarchies and are useful for treation activity, conjugation of hasmarchies and are useful for treation activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel nucleic acids and polypeptides for diagnosis, treatment of central and peripheral nervous system diseases and neuropathies, such as Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present
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12-SEP-2002; 2002US-00243552
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                                                                                                                                                           This invention relates to a novel method for targeting disruption of an arbitrary gene in a genome of an organism which comprises providing the whole sequential data of the genome of such organism, selecting at least 1 arbitrary region in the sequence providing a vector that contains a sequence homologous with the selected region and a marker gene. Transformation, and homologous recombination. The genome is preferably the genome of a hyperthermostable archaebacterium, particularly the genome of a hyperthermostable archaebacterium, particularly the genome of a gene in the genome of an organism, which is applicable in studying gene structure and functions as well as enzyme activities of encoded proteins and useful in medicine, forensic science, food or drug inspection, molecular biology and immunology. With this method, the disruption of a gene at an arbitrary position in a genome can be achieved efficiently and reliably. The present sequence is that of a protein encoded by the genome of Thermococcus kodakaraensis which was derived using the method of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained of the vibral data for this sequence is that the data for this patent in the data for this patent in the data for this patent in the data for this patent is the data for this patent in the data for this patent in the data for this patent in the data for this patent is the data for this patent in the data for this patent is the data for this patent.
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                                                                                                             Sequence 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim
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forensic science; food; drug inspection; molecular biology; immunology.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           studying gene structure and functions.
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                                                                                                                                            ftp.wipo.int/pub/published_pct_sequences
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene disruption; gene targeting; marker gene; transformation;
homologous recombination; hyperthermostable archaebacterium;
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87.5%;
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CC AADD8283-AAD08355 represent cDNAs corresponding to 23 human secreted CC protein genes, and AAE03818-AAE03870 represent the proteins they encode. CC AAE03871-AAE03896 represent human secreted protein fragments or variants. CC The secreted proteins and their genes are useful for preventing, treating CC or ameliorating medical conditions, e.g., by protein or gene therapy. CC Pathological conditions can be diagnosed by determining the amount of the new protein in a sample or by determining the presence of mutations in CC the new genes. Specific uses are described for each of the 23 genes, cadeveloping products for the diagnosis or treatment of proliferative CC developing products for the diagnosis or treatment of proliferative CC developing products for the diagnosis or treatment of proliferative CC developing products for the diagnosis or treatment of proliferative CC developing products for the they are most highly expressed, and include CC developing products for the diagnosis or treatment of proliferative CC developing products for the diagnosis or treatment of proliferative CC developing products for the diagnosis or treatment of proliferative CC developing products for the diagnosis or treatment of proliferative CC developing products (e.g., Alzheimer's disease, Parkinson's disease), CC genitive disorders (e.g., Alzheimer's disease, Parkinson's disease), CC cognitive disorders, schizophrenia, asthma, skin disorders (e.g., CC angiogenic disorders, diabetes, atherosclerosis, cardiovascular disorders, CC proteins can also be used to aid wound healing and epithelial cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       foetal abnormality; developmental abnormality; haematopoietic disorder; immune system disorder; AIDS; autoimmune disease; rheumatoid arthritis; Parkinson's disease; cognitive disorder; schizophrenia; skin disorder; psoriasis; sepsis; diabetes; atherosclerosis; cardiovascular disorder; inflammation; neurological disorder; Alzheimer's disease; food additive; angiogenic disorder; kidney disorder; pastrointestinal disorder; allergy; pregnancy-related disorder; endocrine disorder; infection; wound healing; cell culture; chemotaxis; vulnerary; binding partner identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 11; Page 496-498; 553pp; English.
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21-JUL-2000; 2000US-0219665P.
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The present invention relates to albumin fusion proteins comprising a therapeutic protein X and human albumin (HA, also known as human serum albumin, HAA). The proteins are useful for treating a disease or disorder that may be modulated by therapeutic protein X. The albumin extends the shelf-life of protein X, and may increase its biological in vitro/in vivo activity. The protein is useful for treating and diagnosing disorders such as cancer, reproductive disorders, digestive disorders (e.g. Crohn's disease, ulcerative colitis), immune disorders (e.g. acquired the colitis).
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25-APR-2000; 2000US-0199384P
21-DEC-2000; 2000US-0256931P
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7837
further relates to: a composition comprising the albumin fusion protein and a pharmaceutical carrier; a kit comprising the composition of the albumin fusion protein formula; a method of treating a disease or disorder in a patient comprising the step of administering the albumin fusion protein; a method of treating a patient with a disease or disorder that is modulated by Therapeutic protein; X, or its fragment or variant; a method of extending the shelf life of Therapeutic protein; X, or its fragment or variant; a nucleic acid molecule comprising a polynucleotide sequence encoding the albumin fusion protein; a vector comprising the nucleic acid molecule of the albumin fusion protein. The albumin fusion protein and a host cell albumin fusion protein and its compositions have the following anti-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           haematopoletic disorders, neural disorders (e.g. Alzheimer's, Parkinson's, Creutzfeldt-Jacob disease, encephalomyelitis, meningitis schizophrenia), and connective disorders (e.g. osteoporosis, arthriti ABG63326-ABG65518 represent albumin fusion proteins of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New albumin fusion proteins, useful for diagnosing, treating, or ameliorating diseases or disorders e.g. cancer, anemia, art asthma, inflammatory bowel disease or Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    albumin fusion protein; cytostatic; antianaemic; antiarthritic; antiathmatic; anti-AIIV; immunosuppressive; antiinflammatory; antipsoriatic; antibacterial; osteopathic; dermatological; antigout; immunomodulator; antiarrhythmic; cardiant; nootropic; antilipaemic; nephrotropic; uropathic; neuroprotective; antiparkinsonian; tranquilizer; antidiabetic; anabolic; hypertensive; vulnerary; gene therapy; cancer;
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25-APR-2000; 2000US-0199384P.
21-DEC-2000; 2000US-0256931P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or connective tissue or epithelial diseases (e.g. Crohn's disease, scleroderma, wound healing or epidermolysis bullosa). This sequence represents a therapeutic protein x relating to the albumin fusion protein of the invention. The sequence listing data for this specification was dowloaded from the USPTO website.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Down's syndrome, Patau syndrome, Turner's syndrome, Apert syndrome or Tay Sachis disease), excretory diseases (e.g. urinary incontinence, urinary tract infections or renal disorders), neural or sensory disease (e.g. Alzheimer's disease, Parkinson's disease, cerebral malaria, meningitis, cerebellar ataxia, attention deficit disorder, autism or obsessive compulsive disorder), respiratory disease (e.g. emphysema, lung cancer or occupational lung disease), endocrine diseases (e.g. diabetes, Addison's disease or glomerulonephritis), digestive diseases (e.g. portal hypertension, irritable bowel disease, gastric atrophy or pancreatitis)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disease), reproductive system disorders (e.g. prostatitis, inguinal hernia, varicocele, penile carcinoma, ovarian adenocarcinoma or Sertoli-leydig tumours), musculoskeletal diseases (e.g. giant cell tumours, Paget's disease, systemic lupus erythematosus, gout, muscular dystrophy or cachexia), cardiovascular disease (e.g. rhabdomyomas, heart disease, arrhythmia, cardiac arrest, heat valve disease, hypernatraemia or hyponatraemia), mixed foetal diseases (e.g. foetal alcohol syndrome, hyponatraemia), mixed foetal diseases (e.g. foetal alcohol syndrome,
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                                                                                                                                                                               (GENO-) GENOME
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                                                                                                                                                                         THERAPEUTICS CORP
                                                                                                                                                                                                                                                                                      97US-0055779P.
97US-0064964P.
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87.5%;
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Pred. No. 1.5e
0; Mismatches
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1.5e+02;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      given in ABP35124 to ABP37960. The S. epidermidis sequences antibacterial activity and can be used in gene therapy. The sequences have also be used in the diagnosis and treatment of bacterial infections, particularly S. epidermidis infections. The sequences can be compounds able to interfere with the S. epidermidis in sequences can be used to screen for compounds able to interfere with the S. epidermidis life cycle or inhibit S. epidermidis infection. N.B. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the USPTO web site
This invention relates to nucleic acid sequences AAF93744 - AAF93916 which encode human secretory or membrane proteins represented by AAB88317 - AAB88419. Included in the invention are primers AAF93917 - AAF94295 and AAF62232 - AAF62235 which are used to isolate the cDNA sequences of the invention. The invention also includes methods for the production of antibodies directed against the proteins, and cDNA sequences, which can
                                                                                                                                                                                                                                                             08-JUL-1999; 99JP-00194179
11-JAN-2000; 2000JP-00118775
02-MAY-2000; 2000JP-00183766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel isolated nucleic acid encoding a Staphylococcus epidermis polypeptide, useful for diagnosing and treating bacterial infections.
                                                                                                                       Nucleic acids encoding secretory proteins/membrane proteins, useful gene therapy or as candidate target molecules in drug development.
                                                                                                                                                                                                                                                                                                                                                                                                                             Human; secretory protein; membrane protein; vaccine; gene therapy; rheumatoid arthritis; diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human membrane
                                                                                               Claim
                                                                                                                                                                 WPI; 2001-093989/11.
N-PSDB; AAF93908.
                                                                                                                                                                                                                                                                                                                     07-JUL-2000; 2000EP-00114090
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66.7%;
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Pred.
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                                                                                              Sequence
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No.
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                                                                                              Listing; English
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                                                                                                                                                                                                         Sugiyama
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                                                                                                                                                                                                          Hayashi K;
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RESULT 27
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Best Local Similarity
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The invention describes a new isolated nucleic acid encoding a Klebsiella pneumoniae polypeptide. Also described are: a recombinant expression vector comprising the nucleic acid, operably linked to a transcription regulatory element; and a cell comprising the recombinant expression vector. The nucleic acid is useful for preparing a vaccine composition against Klebsiella pneumoniae. This is the amino acid sequence of a Klebsiella pneumoniae of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Recombinant expression vector; transcription regulatory element; Klebsiella pneumoniae protein; antibacterial; Vaccine.
                                                                                                                                                                                                                                                                             New nucleic preparing a
                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-895346/82
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                                                                                                                                                                                                                       Disclosure, SEQ ID NO 11090; 932pp; English.
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                                                                                                                                                                                                                                                                       acid encoding a Klebsiella pneumoniae polypeptide, vaccine composition against Klebsiella pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Osborne M;
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87.5%;
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Pred. No. 1.5e+02;
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Sequence 685

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RESULT 29

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RESULT 28
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Best Local S
Matches 6
                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                        The present invention relates to glucan capable of being produced by glucosyltransferase activity of a lactic caid bacterium on a sucrose substrate. The method is useful as a thickener, as a prebiotic and as a bioactive agent and as an anti-corrosion agent. The glucan can be incorporated in foodstuffs such as beverages, suces, dressings, dairy products. The glucan is useful as anticorrosion agent, e.g. for the protection of ship hulls. It can also be incorporated in nutritional or pharmaceutical compositions intended for improving the condition of the
                                                                                                                                                                                                                     Sequence 2022 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glucan; glucosyltransferase activity; thickener; prebiotic; bioactive agent; anti-corrosion agent; foodstuff; gastrointestinal tract.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 11; Fig 1; 51pp;
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                                                                                                                                                                                                                                                                                                    gastrointestinal tract.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel glucan produced by glucosyltransferase activity of lactic acid bacterium on sucrose substrate, and having backbone consisting of alpha (1,3) - and alpha (1,6)-linked anhydroglucose units, useful as thickener.
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25-JUL-2001; 2001EP-00202841.
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                                                                                                                                     Local
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                                                        1 VKLG--TYYFD 9
                                                                                                      8; Conserv
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VKIGNDTYYFD
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                                                                                                         Conservative
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  1734
                                                                                                                                  68.5%;
72.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             English.
                                                                                                                                                                                                                                                                                                    The present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOEGEPAST.
                                                                                                         Score 37; DB
Pred. No. 9.1e
1; Mismatches
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Pred. No. 2.
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                                                                                                                                                                                                                                                                                                    represents a sequence of the
                                                                                                                                                               Length 2022;
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RESULT 30
ABP26309
ID ABP26
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AC ABP26
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DT 02-JU
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                                                                                                                                                                                                                                                                                                                                             streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS (Streptococcus/GAS (Streptococcus/GAS), given in (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in the specification. The proteins have antibacterial and antiinflammatory activity. (I), mucleic acids encoding (I), ABN66044-ABN71556 and antibodies that bind (I) are used in the manufacture of medicaments for the treatment or prevention of infection or disease caused by Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes. Wholeic acids encoding (I) are used to detect Streptococcus in a composition comprising (I) or a nucleic acid encoding (I), may be used to determine whether a compound binds to (I). A composition comprising (I) or a nucleic acid encoding (I), may be used as a vaccine or diagnostic composition. The disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I) and may be used in gene therapy. Antibodies to (I) are used for affinity chromatography, immunoassays, and distinguishing/identifying
                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 6; Conserv
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                                                                                                                                                                                                                                                                                                   Sequence 160 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New Streptococcus protein for the treatment or prevention of infection or disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the protein.
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24-NOV-2000; 2000GB-00028727
07-MAR-2001; 2001GB-00005640
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   02-JUL-2002
                                  ABP26309;
                                                                                                                                                                                                                                                                                                                                   Streptococcus proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Page 4151; 4525pp; English.
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N-PSDB; ABN71150.
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                                                                   ABP26309 standard; protein; 163 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a protein (ABP25413-ABP30895) from group B
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Tettelin H;
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INST GENOMIC RES.
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   (first entry)
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75.0%;
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                                                                                                                                                                                                                              Score 36; DB Pred. No. 88; 1; Mismatches
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Thes 6; Conserv
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                                                                                                                                                  RESULT 31
                                                                                                                                                                                                                                                                                                                                                                               Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes. Nucleic acids encoding (I) are used to detect Streptococcus in a biological sample. (I) is used to determine whether a compound binds to (I). A composition comprising (I) or a nucleic acid encoding (I), may be used as a vaccine or diagnostic composition. The disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I) and may be used in gene therapy. Antibodies to (I) are used for affinity chromatography, immunoassays, and distinguishing/identifying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae; group A streptococcus; Streptococcus pyogenes; antibacterial; antiinflammatory; infection; vaccine; meningitis; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in the specification. The proteins have antibacterial and antiinflammatory activity. (I), nucleic acids encoding (I), ABN66044-ABN71326 and antibodies that bind (I) are used in the manufacture of medicaments for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-OCT-2000; 2000GB-00026333.
24-NOV-2000; 2000GB-00028727.
07-MAR-2001; 2001GB-00005640.
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                                                                                                                                                                                                                                                                                                                                    Sequence 163 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New Streptococcus protein for the treatment or prevention of infection or disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the protein.
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N-PSDB; ABN66940.
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                                                  17-OCT-2000
                                                                                  AAG09510
                                                                                                                 AAG09510 standard; protein; 257
                                                                                                                                                                                                                                                                                                                                                                   Streptococcus proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the treatment or prevention of infection or disease caused by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a protein (ABP25413-ABP30895)
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Tettelin H;
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(GENO-) INST GENOMIC RES
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                                                  (first entry)
                                                                                                                                                                                                                                                                                      66.7%;
75.0%;
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Arabidopsis thaliana protein fragment SEQ ID

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99US-0139450P. 99US-0139460P. 99US-0139461P. 99US-0139462P. 99US-0139463P. 99US-0139750P. 99US-0139750P. 99US-013983P. 99US-013983P.	99US-0116392P 99US-0116782P 99US-0117528P 99US-0117528P 99US-0117502P 99US-011864P 99US-0118640P 99US-0118640P 99US-0118647P 99US-0119452P 99US-0119452P 99US-0119458P 99US-0119458P 99US-0119458P	99US-0130047PP 99US-0130510P 99US-0130510P 99US-0131449P 99US-013248PP 99US-013248PP 99US-013248PP 99US-013248PP 99US-013248PP 99US-013248PP 99US-013421PP 99US-013421PP 99US-013470PP 99US-013470PP 99US-013475PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP 99US-0134370PP	assa;
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RESULT 32
AAG48547
ID AAG48
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25-SEP 1999
26-OCT 1999
11-OCT 1999
12-OCT 1999
                                       Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                           AAG48547 standard;
 EP1033405-A2
                                                                              Arabidopsis thaliana protein fragment
                                                                                                                        AAG48547;
                    Arabidopsis thaliana.
                                                                                                     18-OCT-2000
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ilarity 75.0%;
Conservative
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                                                                                                                                           protein;
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1; Mismatches
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J. 1.5e+02;
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 25-FEB-1999
09-MAR-1999
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21-APR-1999
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99US-012182F

99US-0123548P

99US-0125788P

99US-01267864P

99US-0127462P

99US-0128734P

99US-0130047P

99US-0130048P

99US-0132484P

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99US-0141842P

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02-JUL-1999 06-JUL-1999 08-JUL-1999 09-JUL-1999 12-JUL-1999 13-JUL-1999 14-JUL-1999 15-JUL-1999 16-JUL-1999

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RESULT 33
ADN46472
ID ADN46472 standard; p
XX
ADN46472;
XX
ADN46472;
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O1-JUL-2004 (first
XX
DE Thermococcus kodakar
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DE Thermococcus codakar
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Gene disruption; gen
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Thermococcus kodakar
XX
WO2004022736-A1.
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PD 18-MAR-2004.
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PF 29-AUG-2003; 2003WO-
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PR 30-AUG-2002; 2002JP-
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                                                                                                                          gene disruption; gene targeting; marker gene; transformation; homologous recombination; hyperthermostable archaebacterium; KOD1; gene structure; gene function; enzyme activity; medicine; forensic science; food; drug inspection; molecular biology; immunology.
   30-AUG-2002; 2002JP-00319011.
                           29-AUG-2003; 2003WO-IB003597.
                                                                                                   Thermococcus kodakaraensis.
                                                                                                                                                                                         Thermococcus kodakaraensis KOD1 protein sequence SeqID350.
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99US-0157859P

99US-0158232P

99US-0159234P

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Pred. No. 1.5e+02;
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ARESULT 34
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This invention relates to a novel method for targeting disruption of an CC arbitrary gene in a genome of an organism which comprises providing the CC whole sequential data of the genome of such organism, selecting at least CC 1 arbitrary region in the sequence, providing a vector that contains a CC sequence homologous with the selected region and a marker gene, CC transformation, and homologous recombination. The genome is preferably the genome of a hyperthermostable archaebacterium, particularly CC Thermococcus kodakaraensis KOD1. The method is for targeting the CC disruption of a gene in the genome of an organism, which is applicable in Studying gene structure and functions as well as enzyme activities of CC encoded proteins and useful in medicine, forensic science, food or drug clispection, molecular biology and immunology. With this method, the CC disruption of a gene at an arbitrary position in a genome can be achieved efficiently and reliably. The present sequence is that of a protein CC encoded by the genome of fhermococcus kodakaraensis which was derived CC using the method of the invention. Note: The sequence data for this gatent did not form part of the printed specification, but was obtained CC in electronic format directly from WIPO at
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                                                                                                                                                                                                                                                                                                                                                            termination sequence
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RESULT 35
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Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
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nilarity 75.0%;
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99US-0121825P.
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99US-0125788P.
99US-012624P.
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99US-0128234P.
99US-0128734P.
99US-013085P.
99US-013044P.
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Pred. No. 1.5e+02;
1; Mismatches 1
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99US-0132863P

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3-0145145P. 3-0145218P. 3-0145224P. 3-0145276P. 3-0145913P.

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Matches 6
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25-OCT 1999;
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26-OCT 1999;
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28-OCT 1999;
28-OCT 1999;
28-OCT 1999;
29-OCT 1999;
                                      The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
  Sequence 361 AA;
                                                                                                                                                                                                                                                                                                         Disclosure;
                                                                                                                                                                                                                                                                                                                                                                          New isolated nucleic a
                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-656860/75.
N-PSDB; ABL11643.
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11-JUL-2000; 2000US-00614150
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-MAR-2002
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99US-0161361P
99US-0161361P
99US-0161932P
99US-0161993P
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                                                                                                                                                                                                                                                                                                                                                                             acid detection reagent for detecting 1000 or more and for elucidating cell signaling and cell-cell
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2.1e+02;
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99US-0145918P 99US-0145918P 99US-0145388P 99US-0146388P 99US-0146388P 99US-0147204P 99US-0149204P 99US-0149204P 99US-0149204P 99US-0149204P 99US-01510808 99US-0

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RESULT 38
AAB75213
ID AAB75
RESULT 39
AAE30515
ID AAE30
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                                                                                                                                                                                                               which encode Drosophila gustatory receptor proteins represented by sequences AAB75193 - AAB75238. The invention includes methods for determining gustatory receptor ligands. Also included is a method for modulating the expression of the DNA encoding the receptors. The DNA and protein sequences may be used for the identification of compounds, e.g. pheromones and other semicohemicals, which may be used for pest management. The DNA sequences may also be used for behavioural studies involving gustatory systems in various organisms. Also, the DNA sequences may also be used to track down gustatory receptor genes in insects that damage crops or transmit diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-061873/07.
N-PSDB; AAF63752.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gustatory receptor; fruit fly; taste; pheromone; semiochemical; crop damage; pest control.
               AAE30515 standard; protein; 361 AA
                                                                                                                                                                                          Sequence 361 AA;
                                                                                                                                                                                                                                                                                                                                                                                 Claim 12; Page 146-147; 227pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                             pest
                                                                                                                                                                                                                                                                                                                                                                                                                       New isolated nucleic acid molecule encoding Drosophila Gustatory Receptor protein useful for e.g. identification of compounds which may be used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Carlson PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-JUN-1999; 99US-0138668P.
10-FEB-2000; 2000US-0181704P.
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75.0%;
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Pred. No. 2.2e+02;
1; Mismatches 1
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Pred. No. 2.2e+02;
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RESULT 40
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Matches 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel nucleic acid encoding insect gustatory or odorant receptor protein useful for identifying a compound which specifically binds to the receptor for controlling a pest population in an area.
                            Cryptococcus neoformans
                                                       fungicide; gene therapy; infection.
                                                                                        C. neoformans
                                                                                                                       04-DEC-2003
                                                                                                                                                     ADB70112
                                                                                                                                                                                ADB70112 standard; protein; 387
                                                                                                                                                                                                                                                                                                                                                                                  Sequence 361 AA;
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                                                                                                                                                                                                                                                                                                                     Similarity 6; Conserv
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                                                                                        amino acid sequence SEQ ID NO:3156
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WO2003052076-A2

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Search completed: December 17, 2004, 18:29:02 Job time: 32.3933 secs
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                                                                                                                                    Query Match 66.7%;
Best Local Similarity 70.0%;
Matches 7; Conservative
                                                                                                                                                                                                                                    The invention relates to a novel purified or isolated Cryptococcus neoformans nucleic acid molecule comprising a sequence encoding a polypeptide comprising a sequence not given in the specification. A polynucleotide of the invention has fungicide activity, and may have a use in gene therapy. The nucleic acid is useful for preparing a composition for treating an infection caused by Cryptococcus neoformans. The present sequence represents a C. neoformans sequence of the invention. Note: The sequence data for this patent is not represented in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pat_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 9; SEQ ID NO 3156; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New nucleic acid, useful for preparing a composition for treating an infection caused by Cryptococcus neoformans.
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N-PSDB; ADB69029.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUN-2003.
                                                                                                                                                                                                          Sequence 387 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zamudio C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (ELIT-) ELITRA PHARM INC.
                                                                   :|||| | ||
24 IKLGTLYRDS 33
                                                                                      1 VKLGTYYFDS 10 :|||| |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eroshkin AM;
                                                                                                                                    Score 36; DB 7; Length 387
Pred. No. 2.3e+02;
1; Mismatches 2; Indels
                                                                                                                                                                      Length 387;
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seq length: 0
seq length: 2000000000
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2: /cgn2_6/ptodata/1,

3: /cgn2_6/ptodata/1,

4: /cgn2_6/ptodata/1,

5: /cgn2_6/ptodata/1,

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109.302 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
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US-09-225-322B-8
US-09-726-327B-18
US-09-726-327B-18
US-09-764-304-18
US-09-764-304-18
US-09-764-304-18
US-09-604-957-3
US-09-543-661A-6788
US-09-107-532A-6082
US-09-110-279-130
US-08-379-057-30
US-09-134-001C-4963
US-09-134-001C-4963
US-09-134-001C-4863
US-09-134-001C-4863
US-09-134-001C-4879
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US-09-134-001C-4879
US-09-134-001C-4831
US-09-134-001C-4931
US-09-134-001C-4931
US-09-248-796A-14832
US-09-248-796A-26385
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                             Sequence 8, Appli
Sequence 18, Appli
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Sequence 3, Appli
Sequence 3, Appli
Sequence 6788, Ap
Sequence 4951, Ap
Sequence 11090, A
Sequence 11090, A
Sequence 1932, Ap
Sequence 463, Appl
Sequence 4763, Appl
Sequence 22, Appl
Sequence 22, Appl
Sequence 13, Appl
Sequence 14832, Ap
Sequence 14832, A
Sequence 14835, A
Sequence 2785, A
Sequence 19714, Ap
Sequence 19715, A
Sequence 19715, A
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US-09-573-630A-2 ALIGNMENTS	US-09-538-092-38	US-09-270-767-59138	US-09-198-452A-1104	US-09-328-352-6167	US-09-107-532A-5034	US-09-270-767-32459	US-09-291-417D-154	US-09-688-188B-154	US-09-291-417D-92	US-09-688-188B-92	US-09-328-352-8230	US-09-543-681A-4720	US-09-489-039A-7783	US-09-248-796A-18015	US-09-248-796A-15824	US-09-270-767-56999	US-08-976-063E-14
Sequence	Sequence											Sequence	Sequence	Sequence	Sequence	Sequence	Sequence
2, Appli	38, Appl	59138, A	1104, Ap	6167, Ap	5034, Ap	32459, A	154, App	154, App	92, Appl	92, Appl	8230, Ap	4720, Ap	7783, Ap	18015, A	15824, A	56999, A	14, Appl

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Sequence 8, Application US/0925322B

Patent No. 6437098

GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASSANA, MAMORU
APPLICANT: HASSANA, YOSHHISA
APPLICANT: HASSANA, YOSHHISA
APPLICANT: KUWANA, YOSHHISA
APPLICANT: KUWANA, YOSHHISA
APPLICANT: KUWANA, YOSHHISA
APPLICANT: KUWANA, YOSHHISA
CURRENT APPLICATION NUMBER: US/09/225,322B

CURRENT APPLICATION NUMBER: US/09/225,322B

CURRENT FILING DATE: 1995-03-01

PRIOR APPLICATION NUMBER: US 08/454,680

PRIOR APPLICATION NUMBER: US 08/408,133

PRIOR APPLICATION NUMBER: US 08/408,133

PRIOR APPLICATION NUMBER: US/09/22,178

PRIOR APPLICATION NUMBER: US/09/29,178

PRIOR FILING DATE: 1995-03-21

PRIOR APPLICATION NUMBER: US/09/29,178

PRIOR APPLICATION NUMBER: US/09/29,178

PRIOR FILING DATE: 1992-09-17

PRIOR APPLICATION NUMBER: US/09/29,178

PRIOR APPLICATION NUMBER: US/09/29,178

PRIOR FILING DATE: 1991-09-18

NUMBER OF SEQ ID NOS: 19

SOFTWARE: PRICE 1991-09-18

NUMBER OF SEQ ID NOS: 19

SEQ ID NO 8

LENGTH: 130
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                                               ş
                                                                                                                                                                                         ORGANISM: Artificial Sequence; FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641
US-09-225-322B-8
                                                                                            Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                              TYPE: PRT
1 VKLGTYYFDS :
                                                                                               10; Conservative
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                                                                                                                      100.0%;
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                                                                                                                        Score 54; DB 4;
Pred. No. 0.011;
                                                                                                  Mismatches
                                                                                                                                               DB 4;
                                                                                               0
                                                                                                                                               Length 130;
                                                                                               0,
                                                                                               Gaps
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RESULT 2 US-09-225-322B-18

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Sequence 18, Application US/09225322B Patent No. 6437098 CONTRACTION:
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO

HASEGAWA, MAMORU

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FILL REFERENCE: 249-101

CURRENT APPLICATION NUMBER: US/09/225,3228

CURRENT FILING DATE: 1999-01-05

PRIOR PPLICATION NUMBER: US 08/454,680

PRIOR FILING DATE: 1995-05-31

PRIOR APPLICATION NUMBER: US 08/408,133

PRIOR APPLICATION NUMBER: US 08/292,178

PRIOR APPLICATION NUMBER: US 08/292,178

PRIOR APPLICATION NUMBER: US 08/292,178

PRIOR FILING DATE: 1994-08-17

PRIOR APPLICATION NUMBER: US07/947,674

PRIOR PILING DATE: 1992-09-17

PRIOR APPLICATION NUMBER: US 7938375

PRIOR FILING DATE: 1991-09-18
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US-09-764-304-8
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CURRENT APPLICATION NUMBER: US/09/764,304

CURRENT FILING DATE: 2001-01-19

EARLIER APPLICATION NUMBER: 09/225,322

EARLIER FILING DATE: 1999-01-05

EARLIER APPLICATION NUMBER: US 08/454,680

EARLIER FILING DATE: 1995-05-31

EARLIER APPLICATION NUMBER: US 08/408,133

EARLIER APPLICATION NUMBER: US 08/408,133

EARLIER FILING DATE: 1995-03-21

EARLIER FILING DATE: 1994-08-17

EARLIER FILING DATE: 1994-08-17

EARLIER APPLICATION NUMBER: US 08/292,178

EARLIER FILING DATE: 1994-08-17

EARLIER APPLICATION NUMBER: US 08/297,674
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                                                                                                                                                                    SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 8
LENGTH: 130
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SEQ ID NO 18
LENGTH: 130
TYPE: PRT
     Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequence 8, Application US/09764304
Patent No. 6495666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                              EARLIER APPLICATION NUMBER: JF 3-238375
EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                        EARLIER FILING DATE: 1992-09-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ENERAL INFORMATION:
                                                                                                                         TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                         FEATURE:
OTHER INFORMATION: CDNA KM-641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
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KUWANA, YOSHIHISA
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  DB 4;
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Length 130;
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; FEATURE:
; OTHER INFORMATION: cDNA KM-641
US-09-764-304-18
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US-09-764-304-18
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                                                                                                                                                                                                                                                                   US-08-211-202-135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 18
LENGTH: 130
                                                                                                                                                                                                                                      Sequence 135, Application US/08211202 Patent No. 5565332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 18, Appr.
Patent No. 649566
                                                                                                                                                                                                                                                                                                                                                                                       Matches
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Best Local
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                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: HOOGENBOOM, Hendricus Renerus Jacobus Matteus
APPLICANT: BAIER, Michael
APPLICANT: JESPERS, Laurent Stephane Anne Therese
APPLICANT: WINTER, Gregory Paul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBU
APPLICANT: HASEGAMA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                               APPLICANT: JESPERS, Laurent Stephane Anne Therese APPLICANT: WINTER, Gregory Paul TITLE OF INVENTION: Production of chimeric antibotiles of invention: combinatorial approach
                                                                                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                         STREET: 6300 SCITY: Chicago
                              STATE:
                                                                      ADDRESSEE: David W. Clough, Marshall O'Toole Gerstein Murray & ADDRESSEE: Borun
                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
               COUNTRY:
                                                                                                                                                                                                                                                                                                                             109 VKLGTYYFDS 118
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RY: USA
60606-6402
                             Illinois
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                                                          6300 Sears Tower, 233 South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                ilarity 100.0%; Score 54; DB 4; Length 130; 100.0%; Pred. No. 0.011; Conservative 0; Mismatches 0: Tndels
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

Floppy disk

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US-08-211-202-135
                                    ; ORGANISM: Lactobacillus reuteri
US-09-604-957-3
                                                                           SEQ ID NO 3
LENGTH: 1278
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/09604957
Patent No. 6486314
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Best Local Similarity 87.5%;
Matches 7; Conservative
  Query Match
                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: VAN GEEL-SCHUTTEN, GERRITDINA HENDRIKA
                                                                                                                                                                        TITLE OF INVENTION: NOVEL GLUCOSYLTRANSFERASE AND NOVEL GLUCAN FILE REFERENCE: BO 43388 CURRENT APPLICATION NUMBER: US/09/604,957 CURRENT FILLING DATE: 2000-06-28 PRIOR APPLICATION NUMBER: 00201871.1 PRIOR FILING DATE: 2000-05-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: GB 9206318.9'
FILING DATE: 24 MAR-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9206372.6
FILING DATE: 24 MAR-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: PCT/GB92/00883
FILING DATE: 15-MAY-1992
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PRICR APPLICATION DATA:
APPLICATION UMBER: GB 9120252.3

FILING DATE: 23-SEP-1991

PRICR APPLICATION DATA:
APPLICATION UMBER: GB 9120377.8

FILING DATE: 25-SEP-1991

PRICR APPLICATION DATA:
                                                                                                                                                                                                                                                                                               APPLICANT: DIJKHUIZEN, LUBBE
APPLICANT: RAHAOUI, HAKIM
APPLICANT: LEER, ROBERT-JAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEX: 25-3856
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                     NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/211,202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 36,107
REFERENCE/DOCKET NUMBER: 3TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-474-6300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amir
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 312-474-0448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: David W. Clough REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)
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amino acid
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70.4%; Score 38;
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Pred. No. 1.7;
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  DB
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  4.
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Length 1278;
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Query Match
Best Local Similarity
Conserve
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US-09-107-532A-6082
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US-09-543-681A-6788
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: GARY BRETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABILI
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
TILE REFERENCE: 2709.1002-001
CURRENT FILLE REFERENCE: 2000-04-09/543,681A
CURRENT FILING DATE: 2000-04-09
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 6788
LENGTH: 94
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patent No. 6583275
GENERAL INFORMATION:
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Patent No. 6605709
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Matches 6; Conserv
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                               APPLICATION NUMBER: 60/051571
FILING DATE: JULY 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MIDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Lynn A Doucette-Stamm and David Bush
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES
ENTEROCOCCUS FAECIUM FOR DIAGNOSTICS I
             TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1221 GTYYFDN 1227
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                                                                                                                                               APPLICATION NUMBER: 60/085,598 FILING DATE: 14 May 1998
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                                                                                                                                                                                                                                                                    SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                ZIP: 02354
                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                      STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Waltham
TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                         100 Beaver Street
(781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75.0%;
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Pred. No.
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1; Mismatches 0;
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11;
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AND THERAPEUTICS
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RESULT 9
US-09-134-001C-4951
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US-09-489-039A-11090
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                                      GENERAL INFORMATION:
APPLICANT: GATY BETCHON et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PNEUMONIAB FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 11090
LENGTH: 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4951, Application US/09134001C

Patent No. 6380370

GENERAL INFORMATION:

APPLICANT: Lynn Doucette-Stamm et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS

TITLE OF INVENTION: REPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: GTC-007

CURRENT APPLICATION NUMBER: US/09/134,001C

CURRENT FILING DATE: 1998-08-13

PRIOR APPLICATION NUMBER: US 60/064,964

PRIOR EPILING DATE: 1997-11-08

PRIOR APPLICATION NUMBER: US 60/055,779

PRIOR FILING DATE: 1997-08-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 5674
SEQ ID NO 4951
LENGTH: 388
TYPE: PRT
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                                                                                                                                                                                                                                                                                                             Sequence 11090, Application US/09489039A Patent No. 6610836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 68.5%;
Best Local Similarity 66.7%;
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
ORGANISM: Klebsiella pneumoniae
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LOCATION: (B) LOCATION 1...137
SEQUENCE DESCRIPTION: SEQ ID NO: 6082:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein HYPOTHETICAL: YES
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 250 RVĠTYYFGS 258
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 KLGTYYFDS 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 37; DB 'Pred. No. 16; Nismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 37;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 3;
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US-08-379-057-30
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Best Local Similarity
                                                              Matches
                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                       TELEFAX: (206) 727-3601 INFORMATION FOR SEQ ID NO: 30:
                                                                                                                                         TOPOLOGY: lir
MOLECULE TYPE:
FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: F10ppy disk
COMPUTER: IBM PC compatible
COMPUTER: PA PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION UMBER: US/08/379,057
FILING DATE: 26-JAN-1995
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 118 amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Gordon, Marcia L.
APPLICANT: Bajorath, Jurgen
APPLICANT: Aruffo, Alejandro A.
TITLE OF INVENTION: Monoclonal Antibodies Specific For
TITLE OF INVENTION: Different Epitopes of Human gp39 ar
TITLE OF INVENTION: In Diagnosis and Therapy
                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION: TELEPHONE: (206) 727-3670
                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
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                                                             Local Similarity nes 6; Conserv
                                                                                                                                                                                                                                                                                                    NAME: Poor, Brian W.
REGISTRATION NUMBER: 32,928
REFERENCE/DOCKET NUMBER: ON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Seattle
STATE: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
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 57
                          5 TYYFDS 10
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5876950
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                                                                                                                                                                                                       118 amino acids
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Gilliland, Lisa K.
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                                                              Conservative
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                                                                                                                                                                          linear
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                                                                                                                                          protein
internal
 62
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                                                         64.00;
100.08; F1
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                                                                             Score 35; pred. No.
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Pred. No.
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                                                             Mismatches
                                                                                              DB 2;
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                                                                                            Length 118;
                                                                Indels
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US-09-710-279-1932
, Sequence 1932, Application US/09710279
, Patent No. 6703492
, GENERAL INFORMATION:
, APPLICANT: KIMMERLY, WILLIAM JOHN

RESULT 12

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RESULT 13
US-09-134-001C-4963
US-09-134-001C-4963, Application US/09134001C
Patent No. 6380370
Patent No. 6380370
                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 7
APPLICANT: Yale University
APPLICANT: Carlson, John R.
APPLICANT: Ciyne, Peter J.
APPLICANT: Clyne, Peter J.
APPLICANT: Warr, Coral G.
TITLE OF INVENTION: No. 6610511el Family of Odorant Rec
FILE REFERENCE: 44574-5661-US
CURRENT APPLICATION NUMBER: US/09/491,577
CURRENT FILING DATE: 2000-01-25
EARLIER APPLICATION NUMBER: US 60/117,132
                                                                                                                                                                                                                                                                                   RESULT 14
US-09-491-577-96
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Description of Artificial Sequence: synthetic; OTHER INFORMATION: amino acid sequence US-09-710-279-1932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Lynn Doucette-Stamm et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS
TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC-007
CURRENT APPLICATION NUMBER: US/09/134,001C
CURRENT FILING DATE: 1998-08-13
PRIOR APPLICATION NUMBER: US 60/064,964
PRIOR FILING DATE: 1997-11-08
PRIOR APPLICATION NUMBER: US 60/055,779
PRIOR APPLICATION NUMBER: US 60/055,779
PRIOR PILING DATE: 1997-08-14
NUMBER OF SEQ ID NOS: 5674
SEQ ID NO 4963
LENGTH: 288
TYPE: DET
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PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 1932
LENGTH: 226
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/710,279
CURRENT FILING DATE: 2000-11-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / Match 64.8%;
Local Similarity 75.0%;
les 6; Conservative
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75.0%;
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Pred. No.
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Pred. No.
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US-08-525-539A-41
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                                                                                                                                    US-08-525-539A-41
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SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 96
LENGTH: 349
TYPE: PRT
                                                            Query Match 63.
Best Local Similarity 75.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/525,539A
FILING DATE: 14-SEP-1995
CLASSIFFICATION: 4.24
ATTORNEY/AGENT INFORMATION:
NAME: DYLAN, TYLER
NAME: DYLAN, TYLER
NAME: DYLAN, TYLER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 41,
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Best Local Similarity
Matches. 6; Conserv
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                                                                                                                                                                                                                                      TELEX: 706141
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: REC
TITLE OF INVENTION: MC3
TITLE OF INVENTION: MET
NUMBER OF SEQUENCES: 81
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 37,612
REFERENCE/DOCKET NUMBER: 27633-20001.21
TELECOMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
TELEPAX: (415) 494-0792
                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: DO COUTO, FERNANDO J.R.
                                                                                                                                                  LENGTH: 19 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: MORRISON & FOERSTER STREET: 755 Page Mill Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LGTYYF 66
                              3 LGTYYFDS 10
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LAVYYFDS 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64.8%; Score 35; ilarity 100.0%; Pred. No. Conservative 0; Mismatc
                                                                                  63.0%;
75.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ROBERTO L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JERRY A.
                                                                                                                                                                                                                                         41:
                                                                                Score 34;
Pred. No.
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                                                                                DB 3;
7.3;
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1e+02;
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RESULT 16 US-07-942-245-22 ; Sequence 22, Application US/07942245

INFORMATION:

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GENERAL INFORMATION:

APPLICANT: Lynn Doucette-Stamm et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO AC:

TITLE OF INVENTION: ENTEROCOCCUS PAECALIS FOI

FILE REFERENCE: 032796-032

CURRENT APPLICATION NUMBER: US/09/134,000C

CURRENT FILING DATE: 1998-08-13

PRIOR APPLICATION NUMBER: US 60/055,778

PRIOR FILING DATE: 1997-08-15

NUMBER OF SEQ ID NOS: 6812

SOFTWARE: Patentin version 3.1

SEQ ID NO 4879

LENGTH: 271
S
               Query Match
Best Local Similarity
Matches 5; Conserve
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US-09-134-000C-4879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; MOLECULE TYPE: peptide US-07-942-245-22
                                                                                                  ORGANISM: Enterococcus faecalis
                                                                                                                                                                                                                                                                                                                                                                      Sequence 4879, Application US/09134000C Patent No. 6617156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 6491103
INFORMATION FOR SEQ ID NO:
                                                                                                                                   TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 530
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 293-7060
TELEFAX: (202) 293-7860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: In house CURRENT APPLICATION NUMBER: US.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: HP 9000/700 Workstation
OPERATING SYSTEM: UNIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: TITLE OF INVENTION: NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   y maccn 63.0%;
Local Similarity 75.0%;
nes 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 115 amino acids TYPE: amino acid TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            106 LAVÝÝFDS 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 LGTYYFDS 10
 1 VKLGTYYF 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Sughrue, Mion, Zinn, Macpeak & Seas
2100 Pensylvania Avenue, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REES,
ROGUSKA,
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                               Conservative
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                                             63.0%;
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Michael A.
Braydon C.
SURFACE RESIDUE VENEERING OF RODENT
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                               Score 34; DB 4;
Pred. No. 1.2e+02;
2; Mismatches 1
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                                                                                                                                                                                                                                                                                                       ACID SEQUENCES RELATING TO FOR DIAGNOSTICS AND THERAPEUTICS
                                                             Length 271;
                                 Indels
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US-08-252-995D-13
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US-08-834-108-13
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Patent No. 56
                                                                                                                                                                                    Patent No. 5976893
                                                                                                                                                                                                     Sequence 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DCS/MS-DOS
SOFTWARE: PALENTIN Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/252,995D
FILING DATE: 02-UN-1994
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: KUTGYGY, Linda M
REGISTRATION NUMBER: 34,971
REFERENCE/DOCKET NUMBER: 3153-96
TELECOMMUNICATION INFORMATION:
                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Dennis, James W
APPLICANT: Heffernan, Mike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (416) 364-7:
TELEFAX: (416) 361-1390
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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MOLECULE TYPE: p
ORIGINAL SOURCE:
ORGANISM: Sacc
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ADDRESSEE: BERESKIN & PARR
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                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: BERESKIN
                                                                                 ...LE OF INVENTION: NOVEL SERINE/THREONINE KINASE NUMBER OF SEQUENCES: 14
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                                             STREET:
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ZIP: M5H 3Y2
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 COUNTRY:
                             CITY: Toronto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
STRANDEDNESS: sir
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                                                                                                                                                                                                                                                                                   131 LKLGNIFFDS 140
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47 IQLGVYYF 54
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Ontario
Y: Canada
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                                                                                                                                                                                                     Application US/08834108
                                             40 King Street West
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Heffernan, Mike
Fode, Carol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       275 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : (416) 364-7311
(416) 361-1398
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                                                             BERESKIN & PARR
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/834 100
FILING DATE:
CLASSITE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6410, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
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TELEPAX: (416) 361-1398
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
ORIGINAL SOURCE:
ORGANISM: Sac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Kurdydyk, Linda M
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 31
TELECOMMUNICATION INFORMATION:
             CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
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TELECOMMUNICATION INFORMATION:
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COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                       OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                           COMPUTER: PC
                                                                                                                                                                                                                                                                                                                                                               STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                  CITY: Waltham
                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 100 Beaver Street
                                                                                                                                                                                                                                                                                          MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
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Pred. No. 1.2e+02;
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AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 275;
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US-09-134-000C-4931
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Best Local Similarity
Thehes 5; Conserv
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                                                                                                                                                                                                                                                                                                    US-09-248-796A-14832
                                                                                                                                                                                                                                                                                                                         RESULT 22
               SEQ ID NO 14832
LENGTH: 373
                                                                                                                    GENERAL INFORMATION:
APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
TILLE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FLING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US/60/074,725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 6812
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4931
LENGTH: 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4931, Applic Patent No. 6617156 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                   Sequence 14832, Application US/09248796A Patent No. 6747137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/134,000C CURRENT FILING DATE: 199-08-13 PRIOR APPLICATION NUMBER: US 60/055,778 PRIOR FILING DATE: 1997-08-15
                                              PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Lynn Doucette-Stamm et al TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TITLE OF INVENTION: ENTERCOCCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS FILE REFERENCE: 032796-032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 6410: SEQUENCE CHARACTERISTICS:
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TYPE: PRT
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LOCATION: (B) LOCATION 1...319
SEQUENCE DESCRIPTION: SEQ ID NO: 6410:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 319 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                115 RÉGTYYLET 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87 RIGTYYMET 95
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Pred. No.
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Pred. No.
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RESULT 25
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                                                                                                                                                                                        US-09-248-796A-26385
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US-09-543-681A-6460
                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 26385
LENGTH: 979
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 6460
LENGTH: 790
TYPE: PRT
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Best Local
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Best Local Similarity 62.5%;
Matches 5; Conservative
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                                                                                                                     Matches
                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 26385, Application US/09248796A Patent No. 6747137
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CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR FILING DATE: 1999-04-09
                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Keith Weinstock et al TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: GARY BRETON
                                                                                                                                                                                                         ORGANISM: Candida albicans
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                                                                                                                                    Local
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                                                LGNYYFSS 925
                                                                                 LGTYYFDS 10
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ilarity 75.0%;
Conservative
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Pred. No.
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Pred. No. 3.7e+02;
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Pred. No. :
                                                                                                                  core 34; DB 4; I
ced. No. 4.7e+02;
Mismatches 2;
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RESULT 27 US-09-107-532A-5809

Sequence 5809, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm

A Doucette-Stamm

and David Bush

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APPLICANT: HOWELL, STEVEN
APPLICANT: HOWELL, STEVEN
APPLICANT: LEDEBOER, ADRIANUS MARINUS
APPLICANT: LEDEBOER, ADRIANUS MARINUS
APPLICANT: VAN DER LOCT, CORNELIS PAUL
TITLE OF INVENTION: MULTIVALENT ANTIGEN-BINDING PROTEINS
FILE REFERENCE: 60113/268075/ASH
CURRENT APPLICATION NUMBER: US/09/530,139
CURRENT FILING DATE: 2000-04-27
FRIOR APPLICATION NUMBER: PCT/EP98/06991
PRIOR APPLICATION NUMBER: EP 97308538.4
PRIOR APPLICATION NUMBER: EP 97308538.4
PRIOR APPLICATION DATE: 1998-10-27
NUMBER OF SEQ ID NOS: 77
SOFTMARE: Patentin Ver. 2.1
SEQ ID NO 58
LENGTH: 124
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APPLICANT: Keith Weinstock et al
APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 19774
LENGTH: 81
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 19774, Application US/09248796A Patent No. 6747137
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                                                                       Matches
                                                                                                          Query Match
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                                                                                                                                                     FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Anti-LAB-phage
OTHER INFORMATION: fragment
                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Unknown Organism
                                                                     Local Similarity hes 6; Conserv
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o. 6670453
57
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                     4 GTYYFDS 10
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5; Conserv
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GTYYADS
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85.7%;
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Pred. No.
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Pred. No.
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                                                                                                              DB 4;
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NAME/KEY: misc feature LOCATION: (B) LOCATION 1...196 ; SEQUENCE DESCRIPTION: SEQ ID NO: 5809: US-09-107-532A-5809
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US-08-976-063E-14
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                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                        Sequence 14, Application US/08976063E
                                                                                                                                                 APPLICANT: Rabenhorst, Jurgen
TITLE OF INVENTION: SCONTHETIC ENZYMES FOR THE PRODUCTION OF CONIFERYL
TITLE OF INVENTION: ALCOHOL, CONIFERYLALDEHYDE, FERULIC ACID, VANILLII
TITLE OF INVENTION: VANILLIC ACID AND THEIR USE
FILE REFERENCE: BAYET-9998-CAO
FILE REFERENCE: BAYET-9998-CAO
FILE REFERENCE: BAYET-9998-CAO
                                                                                                                                                                                                                                                                                                                                   Patent No. 6524831
NUMBER OF SEQ ID NOS:
SOFTWARE: Patentin Vo
SEQ ID NO 14
                                                            CURRENT APPLICATION NUMBER: US/08/976,063E
CURRENT FILING DATE: 1997-11-21
PRIOR APPLICATION NUMBER: 196 49 655.1 GERMANY
PRIOR FILING DATE: 1996-11-29
                                                                                                                                                                                                                                                                  APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY, AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECHONE: (781)893-5007
TELECHONE: (781)893-5007
TELECPAX: (781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 83.
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ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear MOLECULE TYPE: protein HYPOTHETICAL: YES
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MEDIUM TYPE: CD/ROM ISO9660
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                       PatentIn Ver. 2.1
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OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
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                                                                                                                                                                                                                                                                  Priefert, Horst
                                                                                                                                                                                                                                                                                       Steinbuchel, Alexander
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Pred. No. 1.3e
1; Mismatches
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; TYPE: PRT ; ORGANISM:, not required under old rule US-08-976-063E-14
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                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR TILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 15824
LENGTH: 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Homburger et al.

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster FILE REFERENCE: File Reference: 7326-094

CURRENT APPLICATION NUMBER: US/09/270,767

CURRENT FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 62517

SOFTWARE: Patentin Ver. 2.0

SQ ID NO 56999

LENGTH: 229

TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 15824, Application US/09248796A Patent No. 6747137 GENERAL INFORMATION:
                                                                 Matches
                                                                                 Query Match
Best Local
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Best Local
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Best Local Similarity
                                                                                                                                                                                                                                                                         APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196:132
CURRENT APPLICATION NUMBER: US/99/248,796A
CURRENT FILING DATE: 1999-02-12
PRIOR RIPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
                                                                                                                                                 TYPE: PRT
ORGANISM: Candida albicans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 228
TYPE: PRT
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                                3 LGTYYFDS 10
                                                               Similarity
5; Conser
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 VGAYFFDS
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                                                                   Conservative
                                                                                 61.1%;
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85.7%;
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Pred. No. 1.5e+02
0; Mismatches
                                                                                 Score 33; DB 4;
Pred. No. 1.8e+02
                                                                 Mismatches
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                                                                                                  Length 265;
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RESULT 31

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Query Match
Best Local Similarity
Watches 5; Conserve
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                                                                                                                                                                                                                                                                                                                RESULT 33
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APPLICANT: Keith Weinstock et al
APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: NUCLEIC ACID AND THERAPEUTICS
TITLE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 18015
LENGTH: 357
TYPE: PRT
GENERAL INFORMATION:
APPLICANT: GARY BRETON
APPLICANT: GARY UNCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL
TITLE OF INVENTION: NUCLEIC ACID AND THERAPRUTICS
TITLE OF INVENTION: DIAGNOSTICS AND THERAPRUTICS
FILE REFERENCE: 2709.1002-001
CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 7783, Application US/09489039A
Patent No. 6610836
GENERAL INFORMATION:
APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 18015, Appatent No. 674713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS:
SEQ ID NO 7783
                                                                                                                                                                                                                                           Sequence 4720, Application US/09543681A Patent No. 6605709
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CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 368
TYPE: PRT
ORGANISM: Klebsiella pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Candida albicans
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Pred. No. 2.6e+02;
2; Mismatches 0
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GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: PLOWMAN, GREGORY

APPLICANT: MARTINEZ, RICARDO

APPLICANT: MAYTE, DAVID

FILE OF INVENTION: STE20-RELATED PROTEIN KINASES

FILE REFERENCE: 038602/0328

CURRENT APPLICATION NUMBER: US/09/688,188B

CURRENT FILING DATE: 2000-10-16

PRIOR APPLICATION NUMBER: 09/291,417

PRIOR APPLICATION NUMBER: 09/291,417

PRIOR APPLICATION NUMBER: 09/291,784

PRIOR APPLICATION NUMBER: 09/081,784

PRIOR FILING DATE: 1998-04-14

PRIOR FILING DATE: 1998-04-14

PRIOR FILING DATE: 1998-04-14
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Best Local Similarity
Theches 6; Conserva
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GENERAL IMPORMATION:
APPLICANT: GATY L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AMD AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BUNDANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT PILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 8230
LENGTH: 766
TYDEN: DET
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Best Local S
Matches 5
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LENGTH: 549
                                  Matches
                                                 Query Match
Best Local (
                                                                                                                                                              SOFTWARE: PatentIn Ver. SEQ ID NO 92
                                                                                                                                                                                                                                                                                                                                                                                                                                      -09-688-188B-92
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TYPE: PRT
ORGANISM: Proteus mirabilis
                                                                                                                                TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Acinetobacter baumannii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                  ORGANISM: Murine sp.
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nes 5; Conserv
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    3 LGTYYFD 9
                                  Similarity 5; Conserv
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                                    Score 33; DB . Pred. No. 6.7e.
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Pred. No.
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3.9e+02;
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6.7e+02;
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5.5e+02;
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LGAYYYD 103

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GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY
APPLICANT: MARTINEZ, RICARDO
APPLICANT: MARTINEZ, RICARDO
APPLICANT: WHYTE, DAVID
TITLE OF INVENTION: STE20-RELATED PROTEIN KINASES
FILE REFERENCE: 038602/038
CURRENT APPLICATION NUMBER: US/09/688,188B
CURRENT FILING DATE: 2000-10-16
PRIOR APPLICATION NUMBER: 09/291,417
PRIOR FILING DATE: 1999-04-14
PRIOR APPLICATION NUMBER: 60/081,784
PRIOR APPLICATION NUMBER: 60/081,784
PRIOR FILING DATE: 1999-04-14
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CURRENT FILING DATE: 1999-04-13
PRIOR APPLICATION NUMBER: 60/081,784
PRIOR FILING DATE: 1998-04-14
NUMBER OF SEQ ID NOS: 155
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 92
LENGTH: 911
TYPE: PRT
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US-09-688-188B-154
; Sequence 154, Application US/09688188B
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Matches
Sequence 154, Application US/09291417D Patent No. 6680170
GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY
APPLICANT: MARTINEZ, RICARDO
                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 155
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 154
LENGTH: 966
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patent No. 6680170
GENERAL INFORMATION:
APPLICANT: PLOMMAN, GREGORY
APPLICANT: MARTINEZ, RICARDO
APPLICANT: WAYTE, DAVID
TITLE OF INVENTION: STE20-RELATED PROTEIN KINASES
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                                                                                                                                                                                                                                                                                                                                            ORGANISM: Murine sp
                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
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nes 5; Conserv
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Pred. No.
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Pred. No. 7.1e+02;
1; Mismatches 1

    Mismatches

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; APPLICANT: WHYTE, DAVID
; TITLE OF INVENTION: STE20-RELATED PROTEIN KINASES;
; FILE REFERENCE; 038602/0329
; CURRENT APPLICATION NUMBER: US/09/291,417D
; CURRENT FILING DATE: 1999-04-13
; PRIOR APPLICATION NUMBER: 60/061,784
PRIOR FILING DATE: 1998-04-14
; SEQ ID NO 154
; SEQ ID NO 154
; PRI TYPE: PRI TYPE: PRI MUXING SP.
US-09-291-417D-154
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US-09-270-767-32459
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Patent No. 6703491

GENERAL INFORMATION:
APPLICANT: Homburger et al.

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094

CURRENT APPLICATION NUMBER: US/09/270,767

CURRENT FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 62517

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 32459

LENGTH: 180

TYPE: PRT

ORGANISM: Drosophila melanogaster

TS-04-270.767-33459
                                                                                                                                                                                                                                                                            Sequence 5034, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Dougette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
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Matches
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ses 5; Conserv
                ZIP: 02354

COMPUTER READABLE FORM:

MEDIUM TYPE: CD/ROM IS09660

COMPUTER: PC

OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 7310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13
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                                                                                                                                                          STATE: Massachusetts
                                                                                                                                                                               CITY: Waltham
                                                                                                                                      COUNTRY: USA
                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                     ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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Pred. No.
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Pred. No.
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AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
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1.8e+02;
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Title:
Perfect score:
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Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
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seq length: 2000000000
Published Applications AA:*

1: /cgn2 6/ptodata/2/pubpaa/US07 PUBCOMB.pep:*

2: /cgn2 6/ptodata/2/pubpaa/US06 NEW PUB.pep:*

3: /cgn2 6/ptodata/2/pubpaa/US06 NEW PUB.pep:*

4: /cgn2 6/ptodata/2/pubpaa/US06 PUBCOMB.pep:*

6: /cgn2 6/ptodata/2/pubpaa/US07 NEW PUB.pep:*

6: /cgn2 6/ptodata/2/pubpaa/US07 NEW PUB.pep:*

7: /cgn2 6/ptodata/2/pubpaa/US08 NEW PUB.pep:*

9: /cgn2 6/ptodata/2/pubpaa/US08 PUBCOMB.pep:*

9: /cgn2 6/ptodata/2/pubpaa/US09 PUBCOMB.pep:*

10: /cgn2 6/ptodata/2/pubpaa/US09 PUBCOMB.pep:*

11: /cgn2 6/ptodata/2/pubpaa/US09 NEW PUB.pep:*

12: /cgn2 6/ptodata/2/pubpaa/US09 NEW PUB.pep:*

13: /cgn2 6/ptodata/2/pubpaa/US09 NEW PUB.pep:*

14: /cgn2 6/ptodata/2/pubpaa/US09 NEW PUB.pep:*

15: /cgn2 6/ptodata/2/pubpaa/US10 PUBCOMB.pep:*

16: /cgn2 6/ptodata/2/pubpaa/US10 PUBCOMB.pep:*

16: /cgn2 6/ptodata/2/pubpaa/US10 NEW PUB.pep:*

16: /cgn2 6/ptodata/2/pubpaa/US10 NEW PUB.pep:*

17: /cgn2 6/ptodata/2/pubpaa/US10 NEW PUB.pep:*

18: /cgn2 6/ptodata/2/pubpaa/US10 NEW PUB.pep:*

19: /cgn2 6/ptodata/2/pubpaa/US10 NEW PUB.pep:*
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1 VKLGTYYFDS 10
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185.159 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

13	12	11	10	9	æ	7	6	us	4	ω	N	_	Result
39	39	39	39	39	39	40	54	54	54	54	54	54	Score
72.2	72.2	72.2	72.2	72.2	72.2	74.1	100.0	100.0	100.0	100.0	100.0	100.0	Query Match Length DB
435	427	424	341	206	195	446	130	130	130	130	130	130	Length
16	15	17	17	17	17	17	14	14	14	14	9	9	8
US-10-437-963-139528	US-10-425-114-46787	US-10-425-115-204801	US-10-425-115-311275	US-10-425-115-204796	US-10-425-115-365506	US-10-739-930-10028	US-10-166-626-18	US-10-166-626-8	US-10-265-713-18	US-10-265-713-8	US-09-764-304-18	US-09-764-304-8	ID
Sequence 139528,	Sequence 46787, A	Sequence 204801,	Sequence 311275,	Sequence 204796,	Sequence 365506,	Sequence 10028, A	Sequence 18, Appl	Sequence 8, Appli		Sequence 8, Appli	Sequence 18, Appl	Sequence 8, Appli	Description

ALIGNMENTS

US-09-764-304-8
; Sequence 8, Application US/09764304
; Patent No. US20020026036A1
; GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HANAI, HIROMASA
APPLICANT: MIYAAI, HIROMASA
APPLICANTI MIYAAI, HIROMASA
APPLICANTI MIYABIR: US/09/764,304
CURRENT FILLING DATE: 2001-01-19
; EARLIER APPLICATION NUMBER: US/09/764,304
CURRENT FILLING DATE: 1999-01-05
EARLIER FILLING DATE: 1999-01-05
EARLIER FILLING DATE: 1995-03-21
EARLIER FILLING DATE: 1995-03-21
EARLIER FILLING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILLING DATE: 1994-08-17
EARLIER FILLING DATE: 1991-09-18
SOFTWARE: PATENTIAN DATE: 1991-09-18
SOFTWARE: PATENTIAN ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: CDNA KM-641
US-09-764-304-8

Query Match

DB 9; Length 130;

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US-10-265-713-8
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                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUMANA, YOSHIHISA
APPLICANT: KUMANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 19
SOFTWARE: PACENTIN VEX. 2.0
SEQ ID NO 18
LENGTH: 130
TYPE: PRT
                                                                                                                                                                                                                                                                                                                              Sequence 8, Application US/10265713
Publication No. US20030095964A1
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Patent No. US20020026036A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER APPLICATION NUMBER: US 08/408,133
CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR FILING DATE: 1999-01-05
PRIOR PPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EARLIER APPLICATION NUMBER: US07/947,674
EARLIER FILING DATE: 1992-09-17
EARLIER APPLICATION NUMBER: UF 3-238375
EARLIER FILING DATE: 1991-09-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
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Similarity 100.0%;
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Pred. No.
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                                                                                                                                                         US-10-265-713-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1995-03-21
                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn Ver. 2
SEQ ID NO 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
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Best Local (
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                                                                           Matches
                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 18, Application US/102 Publication No. US20030095964A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: UF 3-238375
PRIOR FILING DATE: 1991-09-18
                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHHIISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: HASEGAWA, MAMORU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                            ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                     TYPE: PRT
                                                                                                                                                                         OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641
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APPLICATION NUMBER: US 08/292,178
FILING DATE: 1994-08-17
                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: JP 3-238375
                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 1992-09-17
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109 VKLGTYYFDS
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                                    1 VKLGTYYFDS 10
                                                                           10; Conservative
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118
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                                                                                              100.0%; Score 54; DB 14; Length 130; 100.0%; Pred. No. 0.14;
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Pred. No.
                                                                             Mismatches
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RESULT 5 US-10-166-626-8

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; OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641 US-10-166-626-8
                                                                     CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: UP 3-238375
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
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PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
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CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILING DATE: 2002-06-12
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TITLE OF INVENTION: PROCESS FOR PRODUCING HUWANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRI ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                               ILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PPLICANT: SHITARA, KENYA
                                                                                                                                                                                                                                                                                                                                                                                                                                   PLICANT: KUWANA, YOSHIHISA
TLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
R APPLICATION NUMBER: JP 3-238375
FILING DATE: 1991-09-18
R OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           109 VKLGTYYFDS 118
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No. US20030166876A1
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KUWANA, YOSHIHISA
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Pred. No.
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; PEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641
US-10-166-626-18
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                                                    ; OTHER INFORMATION: Clone ID: MRT4577_96506C.1.pep US-10-425-115-365506
                                                                                                                                                                                                          APPLICANT: La Rosa, Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
ITILE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
ITILE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 365506
LENGTH: 195
                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 365506, Application US/10425115 Publication No. US20040214272A1 GENERAL INFORMATION:
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Publication No. US20040216190A1
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH
TITLE OF INVENTION: PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT FILING DATE: 2003-1
NUMBER OF SEQ ID NOS: 11088
SEQ ID NO 10028
LENGTH: 446
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Best Local Similarity
Matches 10; Conserv
Query Match
Best Local Similarity
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Matches 8; Conserv
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CURRENT APPLICATION NUMBER: US/10/739,930
CURRENT FILING DATE: 2003-12-18
                                                                                    NAME/KEY: unsure
LOCATION: (1)..(195)
OTHER INFORMATION: unsure
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Triticum aestivum FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                             FEATURE
                                                                                                                                                                             ORGANISM: Zea mays
                                                                                                                                                                                                TYPE: PRT
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72.2%;
87.5%;
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80.0%;
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Pred. No.
Score
Pred.
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Pred. No. 0.14;
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39;
 DB 17;
76;
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                  Length 195;
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US-10-425-115-311275
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SEQ ID NO 311275
LENGTH: 341
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Best Local Similarity 87.5%;
Matches 7; Conservative
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FEATURE:
NAME/KEY: unsure
LOCATION: (1)..(206)
OTHER INFORMATION: unsure at al
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SEQ ID NO 204796
LENGTH: 206
TYPE: PRT
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Publication No. US20040214272A1
GENERAL INFORMATION:
                                                                  Matches
                                                                                                     Query Match
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
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CURRENT FILING DATE: 2003-04-28
                                                                                                                                                       OTHER INFORMATION: Clone ID: MRT4577_46938C.1.pep
                                                                                                                                                                         ORGANISM: Zea mays FEATURE:
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                                                           72.2%;
Local Similarity 87.5%;
les 7; Conservative
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   159
                                  3 LGTYYFDS 10
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Pred. No. 80;
                                                                                    Score 39; DB 17;
Pred. No. 1.3e+02;
                                                                  Mismatches
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                                                                    1; Indels
                                                                                                     Length 341;
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APPLICANT: La ROBA; Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
ITITLE OF INVENTION: Nucleic Acid Molecules and
ITITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 204801
LENGTH: 424
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Publication No. US20040214272A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 73128
SEQ ID NO 46787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
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Publication No. US20040034888A1
                                                                           Matches
                                                                                                                Query Match
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Best Local
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APPLICANT: Zhou, Yihavid K.
APPLICANT: Kovalic, David K.
APPLICANT: Kovalic, David K.
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53131)B
FULE REFERENCE: 38-21(53131)B
CURRENT APPLICATION NUMBER: US/10/425,114
CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
NAME/KEY: unsure
LOCATION: (1)...(424)
OTHER INFORMATION: unsure at all Xaa locations
                                                                                                                                                                                            TYPE: PRT
ORGANISM: Zea mays
FEATURE:
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ORGANISM: Zea mays
                                                                                                                                                                         OTHER INFORMATION: Clone ID: 700799057_FLI.pep
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                                                                                           Loca1
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150
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                                                                                           Similarity
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                                  LGTYYFDS 10
LGQYYFDS 157
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                                                                       Score 39; DB 15;
Pred. No. 1.7e+02;
0; Mismatches 1
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Pred. No.
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                                                                                                                Length 427;
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RESULT 13

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RESULT 15
US-10-424-599-145556
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement FILE REFERENCE: 38-21(53221)B CURRENT APPLICATION NUMBER: US/10/437,963 CURRENT FILING DATE: 2003-05-14 NUMBER OF SEQ ID NOS: 204966 SEQ ID NO 139528 LENGTH: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 204798
LENGTH: 572
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Matches
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                                                                                                                                                                                      Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: La Roba, Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(5322)B
FILE REFERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: La Rosa, Thomas J. APPLICANT: Kovalic, David K. APPLICANT: Zhou, Yihua
                                                                                                                                                                                                                                                                                                           NAME/KEY: unsure
LOCATION: (1)..(572)
OTHER INFORMATION: unsure at all Xaa locations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Zea maye
                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
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Local Similarity 87.5%;
les 7; Conservative
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Similarity 87.5%;
7; Conservation
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Barbazuk, Brad
                                                                                                                                                                                                                                                                    MRT4577_118365C.1.pep
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Pred. No. 1.7e+02;
D; Mismatches 1; Indels
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Query Match
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; ORGANISM: Lactobacillus reuteri
US-09-995-749A-2
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                                         US-10-243-552-339
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GENERAL INFORMATION:
APPLICANT: VAN GEEL-SCHUTTEN, GERRITDINA HENDRIKA
APPLICANT: DIJKHUIZEN, LUBBERT
APPLICANT: RAHAOUI, HAKIM
APPLICANT: LEER, ROBERT-JAN
APPLICANT: LEER, ROBERT-JAN
                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Ver.
SEQ ID NO 2
LENGTH: 1781
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SEQ ID NO 145556
LENGTH: 48
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Sequence 339, Application US/10243552
Publication No. US20030224379A1
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Best Local &
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APPLICANT: Cao Yongwei
TITLE OP INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OP INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (5322)]B
CURRENT PPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
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PRIOR FILING DATE: 2000-06-28
PRIOR APPLICATION NUMBER: EPO 00201871.1
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CURRENT FILING DATE: 2001-11-29
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APPLICANT: Kovalic David K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: NOVEL GLUCOSYLTRANSFERASES FILE REFERENCE: BO43388-CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Clone ID: PAT_MRT3847_102456C.1.pep
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                                                                                                                       1724 GTYYFDN 1730
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6; Conserva
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Pred. No.
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1e+03;
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GENERAL INFORMATION:

APPLICANT: Tang, Y. Tom

APPLICANT:

Yang, Wang, Weng,

, Yonghong , Zhiwei , Gezhi

CURRENT APPLICATION NUMBER: US/10/243,552
CURRENT FILING DATE: 2002-09-12
PRIOR APPLICATION NUMBER: US 60/322,511

ILE REFERENCE: 807A

TLE OF INVENTION:

INVENTION: Novel Nucleic Acids and

Polypeptides

Yunging

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                        Query Match
Best Local Similarity
Thes 7; Conserve
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                                                                                                                          ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-833-245-1319
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US-10-243-552-339
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PRIOR FILING DATE: 2001-01-25
PRIOR PPLICATION NUMBER: US 09/491,404
PRIOR FILING DATE: 2000-01-25
PRIOR FILING DATE: 2000-01-25
PRIOR APPLICATION NUMBER: PCT/US01/03800
PRIOR FILING DATE: 2001-02-05
PRIOR PPLICATION NUMBER: US 09/496,914
PRIOR FILING DATE: 2000-02-03
PRIOR FILING DATE: 2000-02-03
                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 60/256, 931
PRIOR FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/199, 384
PRIOR FILING DATE: 2000-04-25
NUMBER OF SEQ ID NOS: 2267
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1119
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Matches
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Publication No. US20040010134A1
GENERAL INFORMATION:
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SEQ ID NO 339
LENGTH: 179
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                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/833,245
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: 60/229, 358
PRIOR FILING DATE: 2000-04-12
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF546PCT
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NUMBER OF SEQ ID NOS: 998
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PRIOR FILING DATE: 2001-02-26
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PRIOR FILING DATE: 2000-01-21
PRIOR APPLICATION NUMBER: US 09/552,317
PRIOR FILING DATE: 2000-04-25
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PRIOR FILING DATE: 2000-12-22
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                                                                                                                                                                                            LENGTH: 380
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nes 7; Conserv
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                                              Conservative
                                                               68.5%;
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                                                             Score 37; DB 11; Length 380; Pred. No. 3.2e+02;
                                           Mismatches
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                                           Indels
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US-10-424-599-250992
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                                                                                             RESULT 21
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Publication No. US20030045472A1

GENERAL INFORMATION:
APPLICANT: Axel, Richard
APPLICANT: Scott, Kristin
TITLE OF INVENTION: Chemosensory Gene Family Encoding Gustatory And Olfactory Receptory
TITLE OF INVENTION: Uses Thereof
FILE REFERENCE: 0575/64019-A/JPW/ADM
CURRENT APPLICATION NUMBER: US/10/081,816
CURRENT FILING DATE: 2002-02-22
PRIOR FILING DATE: 2002-02-22
PRIOR APPLICATION NUMBER: 60/271,319
PRIOR FILING DATE: 2001-02-23
NUMBER OF SEQ ID NOS: 116
SOFTWARE: Patentin version 3.1
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Best Local S
Matches 6
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Publication No. US20040031072A1
GENERAL INFORMATION:
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SEQ ID NO 250992
LENGTH: 73
Sequence 42, Application US/10447328
Publication No. US20040003419A1
GENERAL INFORMATION:
APPLICANT: Carlson, John R.
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Matches 6; Conserv
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                                                                                                                                                                                                                                                                   Query Match
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APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
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                                                                                                                                                                                                                                                                                                                      LENGTH: 361
TYPE: PRT
ORGANISM: Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Glycine FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Clone ID: PAT_MRT3847_68675C.1.pep
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LGTYYSDS 190
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RESULT 23
US-10-369-493-11075
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Best Local
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 3156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3156, Application US/10320797 Publication No. US20040014955A1 GENERAL INFORMATION:
                                                                                                                               Sequence 11075, Application US/10369493 Publication No. US20030233675A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                Matches
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APPLICANT: Wale University
TITLE OF INVENTION: NO. US20040003419Alel Taste Receptors in Drosophila
FILE REFERENCE: 44574-5072
CURRENT APPLICATION NUMBER: US/10/447,328
CURRENT FILING DATE: 2003-05-29
PRIOR APPLICATION NUMBER: US/09/593,519
PRIOR FILING DATE: 2000-06-14
PRIOR FILING DATE: 2000-06-14
PRIOR FILING DATE: 1999-06-14
PRIOR FILING DATE: 1999-06-14
PRIOR FILING DATE: 1999-06-14
PRIOR FILING DATE: 2000-02-10
NUMBER: OF SEQ. ID NOS: 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/10/320,797
CURRENT FILING DATE: 2002-12-16
PRIOR APPLICATION NUMBER: 60/341,261
PRIOR FILING DATE: 2001-12-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: IDENTIFICATION OF ESSENTIAL GENES OF CRYPTOCOCCUS NEOFORMANS TITLE OF INVENTION: METHODS OF USE FILE REFERENCE: 10182-021-999
                                                   APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Eroshkin, Alexey M. APPLICANT: Zamudio, Carlos
                 APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENGTH: 387
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                     INVENTION:
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                                     Xianfeng
EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF PLANTS WITH IMPROVED PROPERTIES
                                                                                           Gregory J
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 154451
                                                                                                                                                                                              Sequence 21, Applica Publication No. US20 GENERAL INFORMATION:
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PRIOR FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 11075
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Best Local Similarity
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Best Local Similarity
TITLE OF INVENTION: AXMI-014, A Delta-Endotoxin TITLE OF INVENTION: Methods for Its Use FILE REFERENCE: 045600/274143
CURRENT APPLICATION NUMBER: US/10/782,141
CURRENT FILING DATE: 2004-02-20
                                                                                               APPLICANT: Carozzi, Nadine
APPLICANT: Hargiss, Tracy
APPLICANT: Koziel, Michael G.
APPLICANT: Duck, Nicholas B.
APPLICANT: Carr, Brian
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CURRENT APPLICATION NUMBER: US/10/369,493
CURRENT FILING DATE: 2003-02-28
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TYPE: PRT
ORGANISM: Glycine max
FEATURE:
FEATURE:
LOCATION: (1)...(440)
OTHER INFORMATION: unsure at all Xaa locations
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TYPE: PRT
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OTHER INFORMATION: Clone ID:
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No. US20040197917A1
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75.0%;
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Pred. No.
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Pred. No. 5.6e+02
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RESULT 27
US-10-781-979-23
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                                                        APPLICANT: CATOZZI, Nadine
APPLICANT: KATSISS, TRACY
APPLICANT: KOZIEJ, Michael G.
APPLICANT: Duck, Nichael G.
APPLICANT: Duck, Nichael B.
APPLICANT: CATT, Brian
TITLE OF INVENTION: AXMI-008, A Delta-Endotoxin General Color Colo
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US-10-782-096-22
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SEQ ID NO 22
LENGTH: 675
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SEQ ID NO 23
LENGTH: 675
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CURRENT APPLICATION NUMBER: US/10/782,096
CURRENT FILING DATE: 2004-02-19
PRIOR APPLICATION NUMBER: 60/448,633
PRIOR APPLICATION NUMBER: 60/448,633
PRIOR FILING DATE: 2003-02-20
NUMBER OF SEQ ID NOS: 23
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NUMBER OF SEQ ID NOS: 23
SOFTWARE: FastSEQ for Windows
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APPLICANT: Koziel, Michael G.
APPLICANT: Duck, Nicholas B.
APPLICANT: Carr, Brian
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TYPE: PRT
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nes 6; Conserv
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85.7%;
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Pred. No. 8.5e+02;
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; OTHER INFORMATION: Clone ID: MRT4577_178164C.1.pep
US-10-425-115-270359
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US-10-425-115-270359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 29
                                                                                                                                                                                                                                                                                                                                              Publication:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 270359
LENGTH, 859
TYPE: PRT
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Publication No. US20040214272A1
                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 106243, Application US/10437963 Publication No. US20040123343A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 85.
Matches 6; Conservative
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                                                                                                                        SEQ ID NO 106243
LENGTH: 931
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Best Local Similarity
                                                                                                                                                       APPLICANT: Barbazuk, Brad
APPLICANT: Li, Ping
APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53221)B
CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants FILE REFERENCE: 38-21(53222)B CURRENT APPLICATION NUMBER: US/10/425,115 CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: La Rosa, Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                        APPLICANT:
NAME/KEY: unsure
LOCATION: (1)..(931)
OTHER INFORMATION: unsure at all
FEATURE:
                                                                                     TYPE: PRT
ORGANISM: Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      627 GNYYFDS 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  430 GTHYFDS 436
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                                                                                                                                                                                                                                                                                                                         Zhou, II...
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Barbazuk, Brad
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85.7%;
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85.7%;
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    Mismatches

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Pred. No.
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Pred. No. 8.5e+02
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                    Xaa locations
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RESULT 30
US-09-880-748-2132
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US-09-880-748-2132
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CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT TELLING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
PRIOR PELICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-03-25
PRIOR FILING DATE: 2001-05-25
NUMBER OF SEQ ID NOS: 3239
                                                PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR PELICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-05-25
NUMBER: 0F SEQ ID NOS: 3239
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SEQ ID NO 2132
LENGTH: 23
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3076, Application US/09880748 Publication No. US20030059937A1 GENERAL INFORMATION:
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Best Local
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Publication No. US20030059937A1
         SEQ ID NO 3076
                                                                                                                                                                                                                                                  APPLICANT: Ruben et al.

TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523
CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR PILING DATE: 2000-06-15
PRIOR FILING DATE: 2000-06-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
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                               SOFTWARE: PatentIn Ver.
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55.6%;
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Pred. No. 45;
2; Mismatches
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Sequence 3076, Application US/10293418

Publication No. US20030223996A1

GENERAL INFORMATION:
APPLICANT: Ruben et al.

ITITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523P2

CURRENT APPLICATION NUMBER: US/10/293,418

CURRENT FILING DATE: 2002-11-27

PRIOR APPLICATION NUMBER: 60/331,469

PRIOR FILING DATE: 2001-11-16

PRIOR APPLICATION NUMBER: 60/340,817

PRIOR APPLICATION NUMBER: 60/340,817
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                                                                                                                                                                                                                                                                                                                                                          RESULT 33
US-10-293-418-3076
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US-10-293-418-2132
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SEQ ID NO 2132
LENGTH: 23
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GENERAL INFORMATION:
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Best Local Similarity 55.
Matches 5; Conservative
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PRIOR APPLICATION NUMBER: 09/880,748
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CURRENT FILING DATE: 2002-11-27
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nes 5; Conserv
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55.68;
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55.6%;
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Pred. No.
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Pred. No.
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RESULT 30
US-10-425-115-263537
; Sequence 263537, Application US/10425115
; Publication No. US20040214272A1
; GENERAL INFORMATION:
; APPLICANT: La Rosa, Thomas J.
; APPLICANT: Kovalic, David K.
; APPLICANT: Kovalic, David K.
; APPLICANT: Cao, Yongwei
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Best Local Similarity 6
"---hes 6; Conservat;
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US-10-437-963-168775
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US-10-293-418-3076
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PRIOR FILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-16
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NUMBER OF SEQ ID NOS: 3247
SEQ ID NO 3076
LENGTH: 23
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SEQ ID NO 168775
LENGTH: 118
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APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53221)B
CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: La Rosa, Thomas
APPLICANT: Kovalic, David
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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NAME/KEY: unsure
LOCATION: (1)..(118)
OTHER INFORMATION: unsure at all Xaa locations
FEATURE:
FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
les 5; Conserv
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Wu, Wei
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Pred. No.
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Pred. No. 2.2e+02;
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RESULT 37
US-10-424-599-179462
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US-10-424-599-178546
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APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5322)B
FULE REFERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT PILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 178546
LENGTH: 139
                                                                                                                                                                     Sequence 179462, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
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Best Local S
Matches 7
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SEQ ID NO 263537
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Best Local
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             APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Glycine max
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NAME/KEY: unsure
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OTHER INFORMATION: unsure at all Xaa locations
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6; Conserva
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Pred. No.
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Pred. No.
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           CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
PRIOR FILING DATE: 2000-10-17
PRIOR PELICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2001-03-16
PRIOR PELICATION NUMBER: 60/276,248
PRIOR PELICATION NUMBER: 60/277,379
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-05-25
NUMBER OF SEQ ID NOS: 3239
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TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT ELICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 242803
LENGTH: 172
TYPE: PRT
ORGANISM: Glycine max
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SEQ ID NO 179462
LENGTH: 139
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Best Local Similarity
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APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
                                                                                                                                                                                                                                                                                                                                    APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: PF523
OFTWARE: PatentIn Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE: OTHER INFORMATION: Clone ID: PAT_MRT3847_61280C.1.pep
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OTHER INFORMATION: Clone ID:
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Local Similarity 87.5%;
108 7; Conservative
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87.5%;
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PRIOR FILING DATE: 2001-05-25

NUMBER OF SEQ ID NOS: 3239

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 1054

LENGTH: 255

TYPE: PRT

ORGANISM: Homo sapiens

US-09-880-748-1054
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; TYPE: PRT
; ORGANISM; Homo sapiens
US-09-880-748-4
Search completed: December 17, 2004, 18:37:59
Job time : 20.3258 secs
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                                                                                                                               Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
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CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PFS23
                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: 60/293,499
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                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                112 INVGPYYFD 120
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Pred. No.
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Pred. No. 4.8e+02;
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OM protein - protein search, using sw model

Run on: December 17, 2004, 18:11:22; Search time 3.93258 Seconds (without alignments)
244.665 Million cell updates/sec

Sequence: Title: Perfect score: US-10-089-500-5 54 VKLGTYYFDS 10

Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched: 283416 segs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB Maximum DB seq length: 0 seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

PIR_79:* 1: pir1: pir1:*
pir2:*
pir3:*
pir4:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	28						22		20	19	18	17	16	15	14	13	12	11	10	9	8	7	o	ហ	4	W	2	۳	NO.	Result
34	34	34	34	34	34		35				35	35	35	35	35	36	36	36	37	38	38	38	38	38	38	39		43		
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hypothetical prote	Ig heavy chain V r	chai	hypothetical prote	o		hypothetical prote	protein K07E3.2 [i	protein ZK829.10 [roteir	hypothetical prote	œ			hypothetical prote	۲	_	_	_	hypothetical prote	probable membrane	~	hypothetical prote	coat protein VP1 -		_	haracterized	Ig heavy chain pre	rized p	ription	

R;Andrie, J.S.; Johnson, S.; Zolla-Pazner, S.; Capra, J.D.
Proc. Natl. Acad. Sci. U.S.A. 88, 7783-7787, 1991
A;Title: Molecular characterization of five human anti-human immunodeficiency virus type A;Reference number: A41287; MUID:91352074; PMID:1909030
A;Accession: B41287
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-144 CAND>

A;Cross-references: GB:M67504; NID:g185413; PIDN:AAA52946.1; PID:g185414 (;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin C;Keywords: heterotetramer; immunoglobulin F;34-117/Domain: immunoglobulin homology <IMM>

Query Match
Best Local Similarity
Matches 6; Conserv

Conservative

74.1%; Score 40; DB 75.0%; Pred. No. 3.4; tive 2; Mismatches

DB 2;

Length 144; Indels

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Gaps

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toxin-like outer m	probable retroelem	organic solvent to	protein kinase CDC	hypothetical prote	N-acetylmuramoyl-L	ABC-type transport	protein kinase (EC	membrane protein y	hypothetical prote	chitinase (EC 3.2.	probable outer mem	outer membrane pro	thiamin biosynthes	hypothetical prote	hypothetical prote

ALIGNMENTS

Qy 1 VKLGTYYFDS 10

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Coat protein VP1 - parvovirus LuIII
C;Species: parvovirus LuIII
C;Date: 17-Feb-1994 #sequence_revision 17-Feb-1994 #text_change 09-Ju1-2004
C;Accession: B44276
R;Diffoot, N.; Chen, K.C.; Bates, R.C.; Lederma, M.
Virology 192, 339-345, 1993
A;Title: The complete nucleotide sequence of parvovirus LuIII and localization of a uniq A;Reference number: A44276; MUID:93297126; PMID:8517025
A;Recession: B44276
A;Recession: B44276
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-587 cDIF>
A;Cross-references: UNIPROT:P36310; GB:M81888
C;Superfamily: parvovirus coat protein
C;Reywords: coat protein; glycoprotein
C;Reywords: coat protein; glycoprotein
C;Reywords: coat protein; glycoprotein
C;Reywords: glycoprotein
C;Reywords: coat protein; glycoprotein
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coat protein VP1 - minute virus of mice (Species: minute virus of mice, murine parvovirus C;Species: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_cha C;Accession: A03700
R;Astell, C.R.; Thomson, M.; Merchlinsky, M.; Ward, D.C. Nucleic Acids Res. 11, 999-1018, 1983
A;Title: The complete DNA sequence of minute virus of mice, A;Accession: A03700
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VCPV2M
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A;Residues: 1-2817 <KUR>
A;Cross-references: UNIPROT:Q97K42; GB:AE001437; PIDN:AAK79053.1; PID:g15023993; GSPDB:CA;Experimental source: Clostridium acetobutylicum ATCC824
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1; Mismatches
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Pred. No. 33;
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hypothetical protein - Symechocystis sp. (strain PCC boos, fypothetical protein - Symechocystis sp. (strain PCC boos, fypothetical protein - Symechocystis sp. (species: Symechocystis species: Symecho
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A;Residues: 1-143,'A,',145-718 <AST>
A;Cross-references: EMBL:M12032
C;Superfamily: parvovirus coat protC;Keywords: coat protein
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A;Rosidues: 1-718 <SAH>
A;Residues: 1-718 <SAH>
A;Residues: 1-718 <SAH>
A;Residues: UNIPROT:P07302; EMBL:X02481; NID:g60918; PIDN:CAB46507.1;
A;Cross-references: UNIPROT:P07302; EMBL:X02481; NID:g60918; PIDN:CAB46507.1;
A;Astell, C.R.; Gardiner, E.M.; Tattersall, P.
J. Virol. 57, 656-669, 1986
A;Title: DNA sequence of the lymphotropic variant of minute virus of mice, MVV
A;Reference number: A29510; MUID:86115415; PMID:3502703
A;Accession: B29510
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A;Residues: 1-716 <AST>
A;Cross-references: UNIPROT:P03137; EMBL:V01115
C;Superfamily: parvovirus coat protein
C;Keywords: coat protein
A;Note: the nucleotide C;Genetics:
A;Start codon: GTG
                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-847 < KAN>
                                                                                                                                                                                                              A;Reference number: S74322; MUID:97061201; PMID:8905231
A;Accession: S75975
A;Status: nucleic acid sequence not shown; translation not shown
                                                                                                            A; Cross-references:
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28-Dec-1987 #text_change
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                                                                         GB:AB001339; NID:g1001291; PIDN:BAA1082; the EMBL Data Library, June 1996
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Similarity

70.4%;

Score Pred.

38; No.

DB 47; <u>ب</u>

Length

Matches

6

Conservative

<u>ب</u>

Mismatches

<u>ب</u>

Indels

0

Gaps

0

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RiTheologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H. ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, C.A.; Li, Y.; Liu, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R. Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H. Rizzo, M.; Rooney, T.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, Ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Skelton, J.; Churcher, C. submitted to the EMBL Data Library, A;Reference number: S49951
                                                                                                                                                                                                                                                          A;Gene: SGD:VID28; MIPS:YIL017c
A;Cross-references: SGD:S0001279
A;Map position: 9L
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.9K hypothetical protein T1E4.10 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
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                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-921 < SKE>
                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: S49965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           probable membrane protein YIL017c - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein YI3299.14c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
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A; Residues: 1-907 < STO>
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                                                                                                                                                                     ;Superfamily: Saccharomyces cerevisiae probable membrane ;Keywords: transmembrane protein ;Keywords: transmembrane #status predicted <TMl>;145-161/Domain: transmembrane #status predicted <TM2>;532-548/Domain: transmembrane
                                                                                                                                                                                                                                                                                                                                 Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Accession: S49965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Date: 28-May-1993 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Species: Saccharomyces cerevisiae
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                                                                                                         Query Match
Best Local (
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                                                                                                         Local Similarity
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Local Similarity 85.7%;
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  VGTYYFD
                                         LGTYYFD 9
                                                                                       Conservative
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                                                                                                         70.4%;
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                                                                                                         Score 38; DB
Pred. No. 51;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 December 1994
                                                                                       Mismatches
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                                                                                                                              DB 2;
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                                                                                       Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S.; Khaykin, E.;
.S.; Maiti, R.; Ma
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RESULT T48029

hypothetical

protein T12C14.70 - Arabidopsis thaliana

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C;Accession: C69872

C;Accession: C69872

C;Accession: C69872

C;Accession: C69872

C; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; Choi A; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, E. Nature 390, 249-256, 1997

A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gallerc iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F.; Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois, A.; Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maueel, Y. M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Fark, S.H.; Parro, V.; Pohl, T.M.; Portetelle, R.; Ogahas, K.; Ogiwara, A.; Oudega, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanlon, A; Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Seror, Akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyama, A; Minters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, K. A; Accession: C69872

A; Althors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A. A; Accession: C69872

A; Catter, M.; Collings, Muddission of the Compence of the Scanles of the Catter, M.; Chiyama, Chim, A.; Chiyama, Chiyama, Chim, A.; Chiyama, Chiyama, Chi
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C;Species: Bacillus subtilis
C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 09-Jul-2004
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A;Gene: ATSP:F8K4.5
A;Map position: 1
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rtz, D.; Li, Y.; Palm, C.J.; Shinn, P.; Sun, H.; Davis, R.W.; Ecker, J.R.; Federspiel,
submitted to the EMBL Data Library, August 1998
A;Description: Arabidopsis thaliana chromosome 1 BAC F8K4 sequence.
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Best Local Similarity
Thes 7; Conserve
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A;Molecule type: DNA
A;Residues: 1-814 < CYS>
A;Cross-references: UNIPROT:O80692; EMBL:ACO04392; NID:g3282170; PID:g3367532; GSPDB:GNO(
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                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: UNIPROT:007629; GB:Z99111; GB:AL009126; NID:g2633699; PIDN:CAB13348
A;Experimental source: strain 168
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A; Reference number: Z14574
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Residues: 1-203 <KUN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: DNA
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   83
                                                                                                                                    Similarity 6; Conserv
                                                                  GTYYFDS 10
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   74
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85.7%;
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70.0%;
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Pred. No.
                                                                                                                                                                         Score 36;
Pred. No.
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27;
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C;Species: Arabidopsis CHALLELL CHAPT-2000 #text_change UJ-ULL-2001 C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change UJ-ULL-2001 C;Accession: T48029
C;Accession: T48029
R;Bargues, M.; Perez-Perez, A.; Terol, J.; Torres, A.; Perez-Alonso, M.; Mewes, H.W.;
R;Bargues, M.; Perez-Perez, A.; Terol, J.; Torres, A.; Perez-Alonso, M.; Mewes, H.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R.She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redcarrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: UNIPROT:Q9LZQ3; EMBL:AL162507
A;Experimental source: cultivar Columbia; BAC clor
C;Genetics:
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 A; Gene:
                                                                                                                    submitted to the EMBL Data Library, A;Reference number: Z21043
A;Accession: T31541
                                                                                                                                                                               R; Matthews, L.
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C;Accession: T31541
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A;Molecule type: DNA
A;Residues: 1-361 <BAR>
                                                                    A; Molecule type: DNA
A; Residues: 1-222 <WIL>
                                                                                                                                                                                                                               hypothetical protein Y47D3A.9 - Caenorhabditis elegans (fragment)
C;Species: Caenorhabditis elegans
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A;Residues: 1-637 <KUR>
A;Cross-references: UNIPROT:Q97Z76; GB:AE006641; NID:g13814241; PIDN:AAK41317.1; GSPDB:G
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A;Note: T12C14.70
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Reference number: A99139
A;Accession: F90257
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                                   A;Experimental source:
                                                 A;Cross-references: EMBL:AL117202; PIDN:CAB57890.1;
                                                                                                                                                                                                                                                                                     RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Accession: F90257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hypothetical protein SSO1053 [imported] - Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 6
                    ;Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Species: Arabidopsis thaliana (mouse-ear cress)
Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004
                                                                                                     Status: preliminary; translated
                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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                                 clone Y47D3A
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Pred. No.
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Pred.
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                                                   CESP: Y47D3A.9
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A; Residues: 1-228 < CHE>
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62
                             1 VKLGTYYFDS
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VKLGNYYLNT
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hypothetical protein TM0812 - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Accession: E7231
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft,
Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Ri
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A;Note: this sequence was submitted to the EMBL Data Library, December 1989
C;Keywords: glycoprotein; transmembrane prottein
F;1-25/Domain: signal sequence #status predicted <SIG>
F;26-228/Product: hypothetical protein UL9 #status predicted <MAT>
F;187-207/Domain: transmembrane #status predicted <TMM>
F;187-207/Domain: transmembrane #status predicted <TMM>
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A;Note: host Homo sapiens (man)
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 09-Jul-2004
C;Accession: S09772
                                                                                                                                                                                                                                                                                                A;Reference number: A72200; MUID:99287316; PMID:10360571 A;Accession: E72331
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                                                                                                                                                                                  A;Cross-references: UNIPROT:Q9WZR9; GB:AE001748; GB:AE000512; NID:g4981332; PIDN:AAD35894
A;Experimental source: strain MSB8
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                                                                                                   C;Superfamily: maltose transport
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                             , R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hickey, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson, D.;
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Pred. No. '
                        Score 35;
Pred. No.
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                                                Length 271;
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R;Kershaw, J.

R;Kershaw, J.

Bubmitted to the EMBL Data Library,

Bubmitted to the EMBL Data Library,

Bubmitted to the EMBL Data Library,
                                                     C;Accession: T28028
R;Harris, B.
submitted to the EMBL Data Library,
A;Reference number: Z20458
A;Accession: T28028
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                                                                                                                                                    hypothetical protein 2K829.10 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change
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A; Residues: 1-372 <STO>
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                                   A; Status: preliminary; translated
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;Experimental source: clone F28C12
;Molecule type: DNA
;Residues: 1-669 <W
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;Superfamily: Caenorhabditis elegans hypothetical protein F18CS
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Pred. No. 75;
2; Mismatches
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                                       from GB/EMBL/DDBJ
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                                                                                              May 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL: Z93380; PIDN: CAB07600.1; GSPDB: GN00019; CESP: F2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PID: g12723145;
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                                                                                                                                                                                                                                                                                                                                                                                                               Length 372;
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A; Molecule type: DNA
A; Residues: 1-685 < WIL-
A; Cross-references: UNIPROT: Q20423; EN
A; Experimental source: clone F45D3
A; Experimental source: clone F45D3
A; Experimental source: clone F45D3
A; Grant, B; Greenwald, I
Genetics 143, 237-247, 1996
A; Title: The Caenorhabditis elegans se
protein ZK829.10 [imported] - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 10-May-2001 #equence_revision 10-May-2001 #text_change 09-Jul-2004
C;Accession: G88851
C;Accession: G88851
C;Accession: The C. elegans Sequencing Consortium.
Science 282, 2012-2018, 1998
Science 282, 2012-2018, 1998
A;Title: Genome sequence of the nematode C. elegans: a platform for investi, A;Reference number: A75000; MUID:99069613; PMID:9851916
A;Rote: see websites genome.wustl.edu/gsc/C_elegans/ and www sanger.ac.uk/P;A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 21
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G88851
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A;Map position: 5
A;Introns: 41/1;
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A;Accession: S68304
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A;Accession: S68303
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A;Status: preliminary; translated from
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Best Local
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ernate names: regulator of lin-12
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75.0%;
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Pred. No. 1.3e
3; Mismatches
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Pred. No.
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1.4e+02;
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       and www_sanger.ac.uk/Projects/C_eleg
, 1999; Science 283, 2103, 1999; and
                                                                                                          a platform for investigating biology
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hypothetical protein C51F7.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004 C;Accession: T20140 R;White, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolog A;Reference number: A75000; MUID:99069613; PMID:9851916
A;Note: see websites genome.wustl.edu/gsc/C elegans/ and www sanger.ac.uk/Projects/C elegans/ and www sanger.ac.uk/Projects/C elegans/ apports published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and A;Accession: B89583
A;Status: preliminary
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A;Gene: ZK829.10
A;Map position: 4
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A;Molecule type: DNA
A;Residues: 1-696 <STO
                                                                                                                                                                                                                                                                                                  submitted to the EMBL Data Library, A;Reference number: Z19228
A;Accession: T20140
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A; Residues: 1-837 <STO>
A; Cross-references: UNI
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                                                                                                    A;Map position: 5
A;Introns: 61/3; 127/3; 155/2; 204/2; 393/1; 434/1; 676/3; 845/1;
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Best Local Similarity
Matches 5; Conser
                                                                                                                                                          Gene: CESP:C51F7.1
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                                                        Query Match
Best Local &
                                                                                                                                                                                 Genetics:
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Best Local
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5; Conserva
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                                     Similarity 6; Conserv
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                                     Conservative
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55.6%;
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                                                    Score 35; DB 2; 1
Pred. No. 2.2e+02;
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Pred.
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Pred. No. 1.7e+02;
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1.4e+02;
                                                                         DB 2; Length 1113;
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hypothetical protein UL68 - human cytomegalovirus (strain AD169)
c/Species: human cytomegalovirus, human herpesvirus 5
A;Note: host Homo sapiens (man)
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 09-Jul-2004
C;Accession: S09831
R;Chee, M.S.; Bankier, A.T.; Beck, S.; Bohni, R.; Brown, C.M.; Cerny, R.; H.
M.; Barrell, B.G.
curr. Top. Microbiol. Immunol. 154, 125-169, 1990
A;Title: Analysis of the protein-coding content of the sequence of human cy
A;Reference number: S09749; MUID: 90269039; PMID: 2161319
A;Accession: S09831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ig heavy chain V region (anti-arsonate antibody) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 12-Oct-1989 #sequence_revision 12-Oct-1989 #text_change 16-Aug-1996
C;Accession: A32189
R;Lascombe, M.B.; Alzari, P.M.; Boulot, G.; Saludjian, P.; Tougard, P.; Berek, C Proc. Natl. Acad. Sci. U.S.A. 86, 607-611, 1989
A;Title: Three-dimensional structure of Fab R19.9, a monoclonal murine antibody: A;Reference number: A32189
A;Accession: A32189
A;Accession: A32189
A;Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Barchan, D.; Kachalsky, S.; Neumann, D.; Vogel, Z.; Ovadia, M.; Kochva, E.; Fuchs, S. Proc. Natl. Acad. Sci. U.S.A. 89, 7717-7721, 1992
A;Title: How the mongoose can fight the snake: the binding site of the mongoose acetylchc A;Reference number: A46158; MUID:92366533; PMID:1380164
A;Recession: A46158
A;Status: preliminary
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A46158
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A; Molecule type: mRNA
A; Residues: 1-84 <BAR>
A; Cross-references: UNIPROT: P54251; GB: M93639; NID: g164173; PIDN: AAA30930.1; PID: g164174
A; Cross-references: UNIPROT: P54251; GB: M93639; NID: g164173; PIDN: AAA30930.1; PID: g164174
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C;Date: 21-Sep_1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
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A; Residues: 1-110 <LAS>
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
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A; Molecule type: DNA
                     A;Status: nucleic acid sequence not shown; translation not shown
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nes 6; Conserv
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Ig heavy chain V region (clone X7-3D12) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change
C;Accession: PH1486
                                                                                                                                   A;Introns: 16/1
A;Introns: 16/1
G;Superfamily: immunoglobulin V region; immunoglobulin homology G;Keywords: heterotetramer; immunoglobulin f;34-117/Domain: immunoglobulin homology <IMM>
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C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change
C;Accession: PH1499
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A;Note: this sequence was submitted to the EMBL Data Library, December 1989
C;Superfamily: human cytomegalovirus hypothetical protein UL68
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A; Residues: 1-140 <GIU>
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J. Exp. Med. 177, 797-809, 1993
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A; Residues: 1-140 <GIU>
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J. Exp. Med. 177, 797-809,
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A;Reference number: A85480;
A;Accession: D85750
A;Status: preliminary
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hypothetical protein ECs1917 [imported] - Escherichia coli (strain 0157:H7, substrain C;Species: Escherichia coli
C;Species: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
C;Accession: B90868
R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H. DNA Res. 8, 11-22, 2001
BNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7 and ge A;Reference number: A99629; MUID:21156231; PMID:11258796
hypothetical protein Z2431 [imported] - Escherichia coli (strain O157:H7, substrain C;Species: Bscherichia coli C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 09-Jul-2004 C;Date: 01. D85750 C;Accession: D85750 R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Ma: 111er, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, B.; Potamousis, K.; Apod Nature 409, 529-533, 2001 Nature 409, 529-533, 2001 A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7. A;Reference number: A85480; MUID:21074935; PMID:11206551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: UNIPROT:067421; GB:AE000740; NID:g2983826; A;Experimental source: strain VF5 C;Genetics: C;Genetics: A;Gene: aq 1428 C;Superfamily: Aquifex aeolicus hypothetical protein aq_1428
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A;Recession: C70424
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C;Species: Aquifex aeolicus
C;Date: 08-May-1998 #sequence_revision 08-May-1998 #text_change 09-Jul-2004
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A; Residues: 1-204 < HAY>
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Matches 6; Conserv
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Pred. No. 65;
2; Mismatches
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RIMD 0509952
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D.J.; Mayhew, K.; Apodaca,

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outer membrane protein - Helicobacter pylori (strain 26695)
C;Species: Helicobacter pylori
C;Species: Helicobacter pylori
C;Date: 09-Aug-1997 #sequence_revision 09-Aug-1997 #text_change 09-Jul-2004
C;Accession: A64659
R;Tomb, J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R.D. Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKenne son, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey, L. Nature 388, 539-547, 1997
Nature 388, 539-547, 1997
A.;Authors: Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C. A;Title: The complete genome sequence of the gastric pathogen Helicobacter pylori.
A;Reference number: A64520; MUID:97394467; PMID:9252185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Title: The genome sequence of the food-borne pathogen Campylobacter jejuni reveals hype; Reference number: A81250; MUID:20150912; PMID:10688204
A;Accession: B81307
A;Status: preliminary
A;Molecule type: DNA
A;Residues: preliminary
A;Residues: 1-258 <PAR>
A;Cross-references: UNIPROT:Q9PNP6; GB:AL139077; GB:AL111168; NID:g6968444; PIDN:CAB7330
A;Experimental source: serotype 02, strain NCTC 11168
C;Genetics:
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R;Parkhill, J; Wren, B.W.; Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; C. C.W.; Quail, M.; Rajandream, M.A.; Rutherford, K.M.; VanVliet, A.; Whitehead, S.; C.W.; Quail, 665-668, 2000
Nature 403, 665-668, 2000
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A; Experimental source:
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C;Superfamily: thiami
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A; Residues: 1-277 < TOM>
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  IKIPTYYFN 228
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A;Residues: 1-357 <BLO>
A;Cross-references: UNIPROT:Q9LZJ9; EMBL:AL162651
A;Experimental source: cultivar Columbia; BAC clone
                                                                                            A; Reference number: Z24465
A; Accession: T48055
                                                                                                                                   R;Bloecker, H.; Mewes, H.W.; submitted to the Protein Sequ
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                                                        A; Molecule type: DNA
                                                                        A; Status: preliminary
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probable outer membrane protein - Helicobacter pylori (strain J99)
C;Species: Helicobacter pylori
A;Variety: strain J99
C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 09-Jul-2004
C;Accession: B71856
R;Alm, R.A.; Ling, L.S.L.; Moir, D.T.; King, B.L.; Brown, E.D.; Doig, P.C.; Smith, Ives, C.; Gibson, R.; Merberg, D.; Mills, S.D.; Jiang, Q.; Taylor, D.E.; Vovis, Nature 397, 176-180, 1999
A;Title: Genomic sequence comparison of two unrelated isolates of the human gastri A;Reference number: A71800; MUID:99120557; pMID:9923682
A,Accession: B71856
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A;Cross-references: UNIPROT:O65213;
C;Keywords: glycosidase; hydrolase
                                                                                                                                                                                                                                                                                                                                                       Plant Cell 10, 781-789, 1998

A;Title: The sex-inducing pheromone and wounding trigger A;Reference number: Z16381; MUID:98259000; PMID:9596636

A;Accession: T08150
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A;Experimental source: strain J99
C;Genetics:
A;Gene: jhp1040
hypothetical protein F26K9.90 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004
C;Accession: T48055
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C;Species: Volvox carteri f. nagariensis
C;Date: 21-May-1999 #sequence_revision 21-May-1999 #text_change 09-Jul-2004
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A; Residues: 1-277 < ARN >
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protein kinase (EC 2.7.1.37) - malaria parasite (Plasmodium falcipar N;Alternate names; calcium-dependant protein kinase C;Species; Plasmodium falciparum C;Date: 17-Feb-1994 #sequence revision 17-Feb-1994 #text_change 09-J. C;Accession: A45472; E71605; S28590 R;Zhao, Y.; Kappes, B.; Franklin, R.M. J. Biol. Chem. 268, 4347-4354, 1993 A;Title: Gene structure and expression of an unusual protein kinase A;Reference number: A45472; MUID:93179444; PMID:8440720 A;Contents: KI
A;Molecule type: DNA
A;Residues: 1-524 <ZHA>
A;Residues: 1-524 <ZHA>
A;Residues: 1-524 <ZHA>
A;Residues: 1-524 <ZHA-
A;Residues: 1-524 <ZHA-
A;Residues: UNIPROT:Q27731; EMBL:X67288; NID:g9877; PIDN:CAA47704.1; PID:g9878
A;Note: sequence extracted from NCBI backbone (NCBIN:125849, NCBIP:125850)
A;Note: sequence extracted from NCBI backbone (NCBIN:125849, NCBIP:125850)
R;Gardner, M.J.; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Koonin, E.V.
A; Pertea, M.; Salzberg, S.; Zhou, L.; Sutton, G.G.; Clayton, R.; White, O.; Smith, H.C.
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A;Title: The complete genome sequence of Bscherichia coli K-12. A;Reference number: A64720; MUID:97426617; PMID:9278503
A;Accession: C64883
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C;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 09-Jul-2004
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Mau, B.; Shao, Y.
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                  E.V.;
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F;145-161/Domain: transmembrane #status predicted <TM3> F;167-183/Domain: transmembrane #status predicted <TM4> F;252-268/Domain: transmembrane #status predicted <TM5> F;285-301/Domain: transmembrane #status predicted <TM6> F;366-557/Domain: ATP-binding cassette homology <ABC> F;383-390/Region: nucleotide-binding motif A (P-loop)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AMU-type transport protein cydD - Haemophilus influenzae (strain Rd KW20)
C;Species: Haemophilus influenzae
C;Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 16-Aug-2004
C;Accession: F64186
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                                                                                                                                                                                                                                                                                                                                   F;66-82/Domain: transmembrane #status predicted <TM1>
                                                                                                                                                                                                                                                                                                                                                          A;Gene: cydD
C;Superfamily: ATP-binding cassette homology
C;Keywords: ATP; nucleotide binding; P-loop;
F;23-39/Domain: transmembrane #status predict
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C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; Fraser, A; Title: Whole-genome random sequencing and assembly of Haema A; Reference number: A64000; MUID:95350630; PMID:7542800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Gocayne, J.D.; Scott, J.; Shirley, D.M.; Brandon, R.C.; Fine, L.D.; Science 269, 496-512, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Fleischmann, R.D.; Adams, M.D.; White, O.; Clayton, R.A.; Kirkness, E.F.; Kerlavage, Gocayne, J.D.; Scott, J.; Shirley, R.; Liu, L.I.; Glodek, A.; Kelley, J.M.; Weidman, D.M.; Brandon, R.C.; Fine, L.D.; Fritchman, J.L.; Fuhrmann, J.L.; Geoghagen, N.S.M.
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A;Introns: 406/3; 440/1; 479/3; 505/3
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A;Experimental source: clone 3D7
C;Genetics:
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A; Residues: 1-524 < GAR >
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A; Status: nucleic ac
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A;Title: Chromosome 2 sequence of the human malaria parasite Plasmodium falciparum.
A;Reference number: A71600; MUID:99021743; PMID:9804551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 1-586
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: nucleic acid sequence
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1; Mismatches
                                                                                                                   Score 34;
Pred. No.
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RESULT 40
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N-acetylmuramoyl-L-alanine amidase [impo
C;Species: Nostoc sp. PCC 7120
A;Note: Nostoc sp. strain PCC 7120 is a
C;Date: 14-Dec-2001 #sequence_revision 1

[imported] -

Nostoc

gp.

(strain PCC 7120)

a synonym of Anabaena sp. 14-Dec-2001 #text_change

strain PCC 09-Jul-2004

PCC 7120

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C;Accession: AD1818
R;Kaneko, T.; Nakamuza, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi Nakazaki, M.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamuda, M.; Yamuda, M.; Tabata, S. MAR Res. 6, 205-213, 2001 Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Analytics of the Color of the Filamentous Nitrogen-fixing Cyanobacterium Analytics of the Color of the Filamentous Nitrogen-fixing Cyanobacterium Analytics of the Color of the Filamentous Nitrogen-fixing Cyanobacterium Analytics Nitroge
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Listing first 45 summaries
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 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: uniprot_sprot:*
2: uniprot_trembl:*
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Gapop 10.0 , Gapext 0.5
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54
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192.513 Million cell updates/sec
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GenCore version 5.1.6 (c) 1993 - 2004 Compus
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CAG21123
Q97H36
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YIB7 YEAST
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       hat38075 oryza sat

Q6gci3 mint vein b

Ass57939 mint vein oryza sat

Q741s2 lactobaci11

Ass09261 lactobaci

Q97k42 clostridium

Q8cpf5 staphylococ

Q8raf5 thermoanaer

Q8raf30 parvovirus

Q84364 murine minu

Q84367 murine minu

Q84367 murine minu

Q84367 murine minu

Q84366 murine minu

Q85476 synechocyst

Q9fw49 arabidopsis

P405479 saccharomyc

Bad00308 camelus d

Q6clb5 kluyveromyc
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Cag21123 photobact
Q97h36 clostridium
Q61uf1 photobacter
Cag19074 photobact
Q8dkc6 synechococc
Q932e5 staphylococ
Q7p1a2 chromobacte
Q614u1 oryza sativ
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Q6LUF1;
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Q97H36;
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Submitted (MAR-2004) to the EMBL; CR378672; CAG21123.1;
Hypothetical protein.
SEQUENCE 217 AA; 24557 MM
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Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q., Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I., Tatusov R.L., Sabathe F., Doucette-Stamm L.A., Soucaille P., Daly M.J., Bennett G.N., Koonin E.V., Smith D.R.;
Baly M.J., Bennett G.N., Koonin E.V., Smith D.R.;
"Genome sequence and comparative analysis of the solvent-producing bacterium Clostridium acetobutylicum.";
J. Bacteriol. 183:4823-4838(2001).
Vibrionaceae; Photobacterium. NCBI_TaxID=74109; [1]
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Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
[2]
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MEDLINE=21359325; PubMed=11466286;
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01-JUN-2003
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(TrEMBLrel. 18, Last sequence up
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zed protein, CGEB homolog.
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a; Vibrionales;
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RESULT 5
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Valle G.;
                                                         QBDKC6; PRELIMINARY;
QBDKC6;
01-MAR-2003 (TrEMBLrel. 2
01-MAR-2003 (TrEMBLrel. 2
01-MAR-2004 (TrEMBLrel. 2
Tl10933 protein.
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CAG19074;
10-MAY-2004
Synechococcus elongatus (Thermosynechococcus elongatus)
Bacteria; Cyanobacteria; Chroococcales; Synechococcus.
NCBI_TaxID=32046;
[1]
                                                                                                                                                                                                                                                                                 Submitted (MAR-2004) to the EMBL/GenBank/DDBJ
EMBL; CR378665; CAG19074.1; -.
Hypothetical protein.
SEQUENCE 206 AA; 23833 MW; 0F43398D786D3E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Genome analysis of Photobacterium profundum reveals the high pressure adaptations."; Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases. EMBL; CR378665; CAG19074.1; -
                                                 OrderedLocusNames=tll0933;
                                                                                                                                                                                                                                                                                                                                  Cestaro A.,
                                                                                                                                                                                                                                                                                                                                               STRAIN=889;
                                                                                                                                                                                                                                                                                                                                                                                 "Genome Analysis of Photobacterium profundum reveals the high pressure adaptations.";
Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                     Valle G.
                                                                                                                                                                                                                                                                                                                                                                                                                              Vezzi A., Campanaro S., D'Angelo M.,
Cestaro A., Malacrida G., Simionati
                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=889;
Vezzi A., C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vibrionaceae; Photobacterium.
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Bacteria, Proteobacteria, Gammaproteobacteria, Vibrionales,
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23833 MW; 0F43398D7
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RESULT CONTROL OF CONT
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DNA Res. 9:123-130(2002).
EMBL; AP005372; BAC08485.1; -.
InterPro; IPR008258; SLT.
InterPro; IPR001440; TPR.
InterPro; IPR001440; TPR-1ike.
Pfam; PF01464; SLT; 1.
PROSITE; PS50293; TPR_REGION; 1.
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Q932E5; Ol-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2004 (TrEMBLrel. 26,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayashi I., Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lian J.-Q., Ito T., Cui L., Oguchi A., Makawa H., Maruyama A., Murakami H., Hosoyama A., Kanamori M., Matsumaru H., Maruyama A., Tinoue R.-I., Kaito C., Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J., Sekimisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., Shiba Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Whole genome sequencing of meticillin-resistant Staphylococcus aureus.";
Lancet 357:1225-1240(2001).
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GO; GO:0003677; F:DNA binding; IEA.
GO; GO:0015074; P:DNA integration; IEA.
GO; GO:0006310; P:DNA recombination; IEA.
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MEDLINE=22225144; PubMed=12240834;
MEDLINE=2225144; PubMed=12240834;
MEDLINE=2225144; PubMed=12240834;
MEDLINE=2225144; PubMed=12240834;
MEDLINE=22225144; PubMed=1224084;
MEDLINE=22225144; PubMed=1224084;
MEDLINE=2224084; PubMed=1224084; PubMed
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STRAIN-BP-1;
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InterPro; IPR011010; DNA brk join enz.
InterPro; IPR011998; L intgrse_like_N.
InterPro; IPR002104; Phage_integrase.
Pfam; PF00589; Phage_integrase; 1
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ODE8D9216268B52C CRC64;
                                                                                                                                                                                                                                                                                                                                                                   14B83C72100292DE CRC64;
                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
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                                                                                                                                                                                                                                                             Length 368;
                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
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RESULT OF PHULT OF PH
   RESULT 9
Q6L4U1
ID Q6L4
AC Q6L4
DT 05-J
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RX WEDLINE—2288380; Pubmed=1450782;
RA Antonio R.V., Almeida F.C., de Almeida L.G.P., de Almeida R.A.
RA Alves-Gomes J.A., Andrade E.M., Araripe J., de Araujo M.F.F.,
RA Alves-Gomes J.A., Andrade E.M., Araripe J., de Araujo M.F.F.,
RA Astolfi-Filho S., Azevedo V., Baptista A.J., Bateus L.A.M.,
RA Batista J.S., Belo A., van den Berg C., Bogo M., Bonatto S.,
RA Barista J.S., Belo A., van den Berg C., Bogo M., Bonatto S.,
RA Camargo A.A., Cardoso D.D.P., Carneiro N.P., Carraro D.M.,
RA Carvalho C.M.B., Cascardo J.C.M., Cavada B.S., Chueire L.M.O.,
RA Carvalho C.M.B., Cascardo J.C.M., Cavada B.S., Chueire L.M.O.,
RA Carvalho C.M.B., Cascardo J.C.M., Cavada B.S., Chueire L.M.O.,
RA Fantinatti F., Farias I.P., Felipe M.S.S., Ferrari L.P., Ferro J.A.,
RA Fartinaelli R.T., Gomes B.A., Goncalves P.R., Grangeiro T.B.,
RA Gazinelli R.T., Jomes B.A., Goncalves P.R., Grangeiro T.B.,
RA Gazinelli R.T., Lima L.F.A., Loureiro M.F., Lyra M.C.C.P.,
RA Madeira H.M.F., Manfio G.P., Maranhao A.Q., Martins W.S.,
RA Mascimento F.F., Nicolas M.F., Oliveira J.G., Oliveira S.C.,
RA Alxeo R.F.C., Parente J.A., Pedrosa F.O., Pena S.D.J., Pereira J.O.,
RA Pereira M., Pinto L.S.R.C., Pinto L.S., Porto J.R., Portich D.P.,
RA Ramalho-Neto C.E., Reis A.M.M., Rigo L.U., Rondinelli E.,
RA Santos E.B.P., Santos F.R., Schneider M.P.C., Seuanez H.N.,
Soares R.B.A., Soares R.B.A., Souza E.M., Seanes F.O., Pena S.D.J., Pereira J.O.,
RA Silva A.M.R., Saates R.B.A., Souza E.M., Souza K.R.L.,
RA Silva A.M.R., Saates R.B.A., Souza E.M., Souza K.R.L.,
RA Souza R.C., Steffens M.B.R., Steindel M., Teixeira S.R., Urmenyi T.,
RA Yettore A., Wassem R., Zaha A., Simpson A.J.G.,
RA Pereira M.S., Saates R.S., Seanes F.O., Pena S.D.J., Pereira M.S., J. Pena S.D.J., Souza K.R.L.,
RA Pena S.D.J., Saates R.S., Saates R.S., Saates R.S., Saates R.S., Saates
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Best Local S
Matches 7
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Q7P1A2;
O1-MAR-2004 (TTEMBLTel. 2
01-MAR-2004 (TTEMBLTEL 2
01-MAR-2004 (TTEMBLTEL 2
Q6L4U1;
Q6L4U1;
05-JUL-2004
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STRAIN=ATCC 12472 /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00353; HemolysinCabind; 4.
PRINTS; PR00313; CABNDNGRPT.
TIGREAMS; TIGR01965; VCBS repeat; 25.
PROSITE; PS00330; HEMOLYSIN CALCIUM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chromobacterium violaceum.
Bacteria; Proteobacteria; Betaproteobacteria; Neisseriales;
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                                                                                                                                                                                                                                          2460
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                                                                                                                                                                                                                                                                                                         VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      proteome.
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       (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                            Conservative
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                                                                         PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                    74.1%;
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                        Score 40; DB 2;
Pred. No. 5.5e+02;
                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                            1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 4130;
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RESULT 10

AAT38075

ID AAT38075

PAC AAT38075

DT 01-JUN-2004 ('DT 01-JUN
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Best Local S
Matches 7
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A Chow T.-Y., Hsing Y.-I.C., Chen C.-S., Chen H.-H., Liu S.-M.,

A Chao Y.-T., Chang S.-J., Chen H.-C., Chen S.-K., Chen T.-R.,

A Chen Y.-L., Cheng C.-H., Chung C.-I., Han S.-Y., Hsiao S.-H.,

A Hsiung J.-N., Hsu C.-H., Huang J.-J., Kau P.-I., Lee M.-C., Leu H.

A Li Y.-F., Lin S.-J., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W.,

A Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.

R EMBL; AC130610; AAT38075.1; -.

R InterPro; IPR035037; PRP38.

R InterPro; IPR050371; PRP38; 1.

W Hypothetical protein.

Q SEQUENCE 434 AA; 51015 MW; A02AE70738E80CBF CRC64;
                                                                                                      Query Match
Best Local Similarity
Matches 7; Conser
                                                                                                                                                                                                            Chow T.-Y., Haing Y.-I.C., Chen C.-S., Chen H.-H., Liu S.-M., Chao Y.-T., Chang S.-J., Chen H.-C., Chen S.-K., Chen T.-R., Chen Y.-L., Chang G.-H., Chung G.-I., Han S.-Y., Haiao S.-H., Hsiung J.-N., Hsu C.-H., Huang J.-J., Kau P.-I., Lee M.-C., Leu Li Y.-F., Lin S.-J., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W., Wu H.-P., Shaw J.-F., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W., "Oryza sativa PAC P0478F09 genomic sequence."; Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases. EMBL; AC130610; AAT38075.1; -. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hypothetical protein P0478F09.2.
P0478F09.2.
Oryza sativa (japonica cultivar-group).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza; Oryza sativa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oryza sativa (japonica cultivar-group).
Eukaryota; Viridiplantae; Streptophyta; En
Spermatophyta; Magnoliophyta; Liliopsida;
Ehrhartoideae; Oryzeae; Oryza.
NCBI_TaxID=39947;
[1]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=cv. Nipponbare;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=39947;
145
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                                                     LGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
1 protein P0478F09.2.
                                                                                                        Conservative
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                                                                                                                               Score 39;
Pred. No.
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Pred. No.
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95;
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a; Poales; Poaceae;
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RESULT Q6QCI3

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AASS79 ID AASS7
AC AASS7
AC AASS7
DT 25-MA
DT 25-MA
DT 25-MA
DT 25-MA
CO Virus
OC Virus
OC Virus
OC Virus
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RESULT 13
Q74IS2
ID Q74IS
AC Q74IS
DT 05-JU
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O6QCI3,

O5-JUL-2004 (TrEMBLrel. 2

O5-JUL-2004 (TrEMBLrel. 2

O5-JUL-2004 (TrEMBLrel. 2
                                                         Q74IS2 PRELIMINARY;
Q74IS2;
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
Prolyl trnA synthetase.
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NON TER
SEQUENCE
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AAS57939;
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EMBL; AY548173; AAS57939.1; -.
EMBL; EROOTABB; RNA dep RNApol2.
InterPro; IPR007095; RNA_pol_DS_PS.
InterPro; IPR007094; RNA_pol_DS_PS.
InterPro; IPR007094; RNA_pol_PSV1I.
InterPro; IPR001680; WD40.
InterPro; IPR001680; WD40.
PFam; PF00978; RNA_dep_RNApol2; 1.
PROSITE; PS00678; WD_REPEATS_1; UNKNOWN_1.
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
Trannetakis I.E., Postman J.D., Martin R.R.;
"Mint vein banding virus, a unique closterovirus
Submitted (FEB-2004) to the EMBL/GenBank/DDBJ dat
EMBL; AY548173; AAS57939.1; -.
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Viruses; seRNA positive-strand viruses, no DNA stage; unassigned species in the family Closteroviridae. NCBI_TaxID=265877;
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Viruses; ssRNA positive-strand viruses, no DNA stage; Closteroviridae; unassigned species in the family Closteroviridae.
NCBI_TaxID=265877;
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25-MAR-2004 (TrEMBLrel.
25-MAR-2004 (TrEMBLrel.
                            OrderedLocusNames=LJ1493;
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Pred. No.
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Aprittet A.-C., Zwahlen M.-C., Rouvet M., Altermann E., Barrangou R.,
A Mollet B., Mercenier A., Klaenhammer T., Arigoni F., Schell M.A.;
The genome sequence of the probiotic intestinal bacterium
Lactobacillus johnsonii NCC 533.";
Lectobacillus johnsonii NCC 530.";
                                                                                                                                   Query Match
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Matches 7
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Best Local :
                                                                                                                                                                                                                                     PubMed=1496310;
Pridmore R.D., Berger B., Desiere F., Vilanova D., Barretto C., Pridmore R.D., Berger B., C., Rouvet M., Altermann E., Barrangou R. Pittet A.-C., Zwahlen M.-C., Rouvet M., Altermann E., Barrangou R. Mollet B., Mercenier A., Klaenhammer T., Arigoni F., Schell M.A.;
"The genome sequence of the probiotic intestinal bacterium Lactobacillus johnsonii NCC 533.";
Proc. Natl. Acad. Sci. U.S.A. 101:2512-2517(2004).
EMBL; ABG017204; AASG0261.1;
Aminoacyl-tRNA synthetase.
SEQUENCE 565 AA; 63241 MW; F655C682A39D68D4 CRC64;
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AAS09261;
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TIGREAMS; TIGRO0409; proS fam II; 1.
PROSITE; PS50862; AA TRNA_LIGASE II; 1.
Aminoacyl-trna synthetase; Complete proteome.
SEQUENCE 565 AA; 63241 MW; F655C682A39D68D4 CRC64;
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Lactobacillus. 
NCBI_TaxID=33959;
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77.8%;
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(C STRAIN=ATCC 824 / DBM 792 / VKM B-1787;

(C STRAIN=ATCC 824 / DBM 792 / VKM B-1787;

X MEDLINE=21359325; PubMed=11466286;

X DOI=10:1128/JB.183.16.4823-4838.2001;

A Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,

A Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,

A Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,

A Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,

A Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,

A Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,

A Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,

A Gibson R., Lee H.M., Dubois J., Wolf D., Wolf D., Wolf Y.I.,

A Gibson R., Lee H.M., Dubois J., Wolf D., Wolf D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ol-MAR-2003 (TrEMBLrel. 23, C
01-MAR-2003 (TrEMBLrel. 23, L
01-MAR-2004 (TrEMBLrel. 26, L
Competence-damage inducible pa
OrderedLocusNames=SE062;
Stabhylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q97K42;
Q97K42;
01-OCT-2001 (TrEMBLrel. 1
01-OCT-2001 (TrEMBLrel. 1
01-MAR-2004 (TrEMBLrel. 2
                        Zhang Y.-Q., Ren S.-X., Li H.-L., Wang Y.-X., Fu G., Yang J., Qin Z.-Q., Miao Y.-G., Wang W.-Y., Chen R.-S., Shen Y., Chen Z., Yuan Z.-H., Zhao G.-P., Qu D., Danchin A., Wen Y.-M., "Genome-based analysis of virulence genes in a non-biofilm-forming Staphylococcus epidermidis strain (ATCC 12228)."; Mol. Microbiol. 49:1577-1593 (2003).

EMBL; AE016747; AA004559.1; -.
EMBL; AE016747; P.Mo-molybdopterin cofactor biosynthesis; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QSCPF5;
01-MAR-2003 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN=ATCC 12228;
PubMed=12950922;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Staphylococcus epidermidis.
Bacteria; Firmicutes; Bacil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Uncharacterized protein, Clostridiales.
                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=1282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q8CPF5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Complete proteome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF01473; CW_binding_1;
SMART; SM00710; PbH1; 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Clostridium acetobutylicum
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       612 IKGNTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   l Similarity
7; Conserve
       IPR001453; MoCF_blosynth.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacillales; Staphylococcus.
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26,
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26, Last annotation update)
related to enterotoxins of other
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 39; DB
Pred. No. 5.8e
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1851D0D4FFBEE921 CRC64;
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2;
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DT 01-JU
DT ABC-t
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GN Order
OC Bacte
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CC TRAI
RN [1]
RN [1]
RP SEQUE
RC STRAI
RA Chen
RA Chen
RA Chen
RA Tan F
RI "A cc
DR Inter
DR GO;
DR GO;
DR GO;
DR COMPO
DR COMPO
SEQUE
RC STRAI
RA GENOM
RA TAN F
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CDR COMPO
SEQUE
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Best Local
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  Query Match
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Q8LTG9;
01-OCT-2002
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Complete proteome.
SEQUENCE 262 AA; 29694 MW; C4EB5FF
                                                                                                                       Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Chen Y., Xue Y., Lai X., Huang L., Dong Tan H., Chen R., Wang J., Yu J., Yang H., "A complete sequence of the T. tengcongensis genome Res. 12:689-700(2002).
EMBL; AE013082; AAN24428.1; -...GO; GO:0016020; C.membrane; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QBRAL5
QBRAL5;
Q1-JUN-2002 (TrEMBLrel. 21,
01-JUN-2003 (TrEMBLrel. 21,
01-JUN-2003 (TrEMBLrel. 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Hypothetical protein (Fragment).
Staphylococcus phage 187.
Viruses; dsDNA viruses, no RNA stage; Caudovirales; Siphoviridae.
                                                                                                                                                                                                                                                                                                                                                                                                  Thermoanaerobacter tengcongensis.
Bacteria, Firmicutes, Clostridia, Thermoanaerobacteriales,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pantucek R., Oracova E., Kva
Submitted (MAY-2002) to the
EMBL; AF515457; AAM54032.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Viruses; dsDNA vi
NCBI_TaxID=55511;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  OrderedLocusNames=TTE1198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hypothetical
NON_TER 2
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                                                           Complete proteome;
                                                                                  InterPro; IPR003838; DUF214.
Pfam; PF02687; FtsX; 1.
                                                                                                                                                                                                                                                                          MEDLINE=21992816; PubMed=11997336;
                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                    Thermoanaerobacteriaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABC-type transport
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281 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10
                                                           Lipoprotein.
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                                          44689 MW;
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77.8%;
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66.7%;
  70.
  .48;
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the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                  Thermoanaerobacter.
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Last annotation update)
involved in lipoprotein
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Pred. No.
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); Mismatches
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  Score
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                                          OAC9708B2F873306 CRC64;
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  38;
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RESULT 19
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DT 0:
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                                                                                                                                          RESULT 20
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Matches 6
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Q84364;
Q84364;
01-NOV-1996
01-NOV-1996
01-OCT-2003
VP2 protein.
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01-JUN-1994
16-OCT-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Diffoot N., Chen K.C., Bates R.C., Lederma M.;
"The complete nucleotide sequence of parvovirus LuIII and localization of a unique sequence possibly responsible for its encapsidation pattern.";
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16-OCT-2001 (Rel. 40, Last annotation update)
Coat protein VP1 (Contains: Coat protein VP2)
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InterPro; IPR008975; Viral_cap_c
Pfam; PF00740; Parvo_coat; 1.
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J08975;
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J1 Parvo coat,
J2 Glycoprotein.
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1.9e+02;
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SEQUENCE FROM N.A.

MEDLINE-86115415; PubMed=3502703;

MEDLINE-86115415; PubMed=3502703;

Astell C.R., Gardiner E.M., Tattersall P.;

"DNA sequence of the lymphotropic variant of "DNA sequence of the lymphotropic variant of "DNA sequence".
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01-NOV-1996
01-OCT-2003
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EMBL, M12032; AAA69572.1; -.
HSSP; p30129; 4DPV.
GO; GO:0019028; C:viral capsid; IEA.
GO; GO:0019028; F:structural molecule activity; IEA.
InterPro; IPR001403; Parvo coat.
InterPro; IPR001975; Viral_cap_coat.
Pfam; PF00740; Parvo coat; 1.
SEQUENCE 587 AA; 64625 MW; 439FD2D9BC7C9782 CRC64;
                                                                                                                                                                                                                                                                                                                                                       Astell C.R., Gardiner E.M., Tattersall P., "DNA sequence of the lymphotropic variant www.(1), and comparison with the DNA sequen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Murine minute virus (Murine parvovirus).
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Parvovirus.
                                                                                     "Three splicing patterns are used all minute virus of mice RNAs."; J. Virol. 60:1170-1174(1986). EMBL; J02275; AAA67114.1; -. HSSP; P30129; 4DPV.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=83143341; PubMed=6298737;
Astell C.R., Thomson M., Merchlinsky M., Ward D.C.;
"The complete DNA sequence of minute virus of mice,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VP1 protein.
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NCBI_TaxID=10794;
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Murine minute virus (Murine
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Morgan W.R., Ward D.C.;
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GO:0019028; C:viral capsid; IEA. GO:0005198; F:structural molecule erPro; IPR001403; Parvo coat. erPro; IPR008975; Viral_cap_coat.
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Parvoviridae, Parvovirinae;
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Last sequence update)
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                                               activity; IEA.
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P03137;
21-JUL-1986
21-JUL-1986
16-OCT-2001
COAT_MUMIM STANDARD;

P07302; Q9WMH2; Q9WMH3;

01-APR-1988 (Rel. 07, Created)

01-APR-1988 (Rel. 07, Last seq

01-OCT-2004 (Rel. 45, Last anno
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Coat protein VP1 [Contains: Coat protein VP2].
Murine minute virus (Murine parvovirus).
Murine minute viruses; Parvoviridae; Parvovir
                                                         MUMIM
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SEQUENCE FROM N.A.
MEDLINE=83143341; PubMed=6298737;
Astell C.R., Thomson M., Merchlinsky M., Ward D.C.;
Astell C.R., Thomson M., acquence of minute virus of mice,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00740;
SEQUENCE 587
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NCBI_TaxID=10794;
                                                                                                                                                                                             SEQUENCE
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InterPro; IPR001403; Parvo_coat.
InterPro; IPR008975; Viral_cap_coat.
Pfam; PF00740; Parvo_coat; 1.
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A03700; VCPV2M.
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sequence update)
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Pfam; PF00740;
3D-structure; CHAIN
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CONFLICT
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SEQUENCE FROM N.A.
MEDLINE=86115415; PubMed=3502703;
Astell C.R., Garddner E.M., Tattersall P.;
"DNA sequence of the lymphotropic variant of minute virus of mice, MYM(i), and comparison with the DNA sequence of the fibrotropic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Coat protein VP1 [Contains: Coat protein VP2]. Murine minute virus (strain MVMi) (Murine parvovirus) Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; PCBI_TaxID=10795;
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InterPro;
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Acta Crystallogr. D 53:93-100(1997).
-!- SIMILARITY: Belongs to the parvoviruses coat protein family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=85242059; PubMed=3855242; Sahli R., McMaster G.K., Hirt B.; Sahli R., McMaster G.K., Hirt B.; Sahli R., McDaparison between two tissue-specific autonomous parvovirus, minute virus of mice."; Nucleic Acids Res. 13:3617-3633(1985).
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EMBL; X02481; CAB46508.1; -.
EMBL; M12032; AAA65569.1; ALT_INIT.
PIR; B23008; VCPVIM.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    prototype strain.";
J. Virol. 57:656-669(1986).
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Llamas-Saiz A.L., Agbandje-Mckenna M., Wikoff W.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                     1MVM;
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IPR001403; Parvo_coat.
IPR008975; Viral_cap_coat.
0740; Parvo_coat; 1.
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HSSP; P30129; 4DPV.
HSSP; GO:0019028; C:viral capsid; IEA.
GO; GO:0005198; F:structural molecule activity; IEA.
InterPro; IPR001403; Parvo_coat.
InterPro; IPR001473; Parvo_coat.
Pfam; PF00740; Parvo_coat; 1.
                                                                                                                                           SEQUENCE FROM N.A.
MEDLINE=83143341; PubMed=6298737;
MStell C.R., Thomson M., Merchlinsky
"The complete DNA sequence of minute
                                                                                                                                                                                                                                      Coding sequence.
Murine minute virus (Murine parvovirus)
Viruses; ssDNA viruses; Parvoviridae; P
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Nucleic Acids
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CAA24313.1; -.
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GO; GO:0005198; F:structural molecule
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InterPro; IPR008975; Viral_cap_coat.
Pfam; PF00740; Parvo_coat; 1.
SEQUENCE 729 AA; 80145 MW; CCE2686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=87061199; PubMed=3783817;
Morgan W.R., Ward D.C.;
Morgan W.R., Ward D.C.;
"Three splicing patterns are used
all minute virus of mice RNAs.";
J. Virol. 60:1170-117411986).
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Viruses; ssDNA viruses; Parvoviridae; Pa
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Matches 6
             Lin X., Kaul S., Town C.D., Benito M., Creasy T.H.,
Maiti R., Ronning C.M., Koo H., Fujii C.Y., Utterbac
Barnstead M.E., Bowman C.L., White O., Nierman W.C.,
Submitted (OCT-2000) to the EMBL/GenBank/DDBJ databa
EMBL, AC069299, AAG26079.1; -.
PIR, A86460, A86460; Integrin_alpha.
InterPro; IPR000413; Integrin_alpha.
InterPro; IPR001611; LRR.
InterPro; IPR001611; LRR.
Ffam, FP00560; LRR; 21.
PROSITE; PR00019; LEURICHRPT.
RPROSITE; PR00019; LEURICHRPT.
RPROSITE; PR00012; INTEGRIN_ALPHA; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9FW49;
Q9FW49;
01-MAR-2001
01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kaneko T., Tanaka A., Sato S., Kotani H., Sazuka T., Miyajima N., Sugiura M., Tabata S.; Sugiura M., Tabata S.; "Sequence analysis of the genome of the unicellular cyanobacterium synechocystis sp. strain PCC6803. I. Sequence features in the 1 Mb region from map positions 64% to 92% of the genome."; DNA Res. 2:153-166(9195).
EMBL; D64006; BAA10822.1; -.
EMBL; 75975; 75975.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=97061201; PubMed=8905231;
Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakamura 1
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Matsuno A., Muraki A., Nakazaki N., Naruo K., Okumu
Shimpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda
Tabata S.;
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Synechocystis sp. (strain
Bacteria; Cyanobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                 Arabidopsis thaliana (Mouse-ear cress).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta;

Spermatophyta; Magnoliophyta; endicotytedons; core e
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation updat)
Hypothetical protein T1E4.10.
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InterPro; IPR008941; TPR-like
Pfam; PF01464; SLT; 1.
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MEDLINE=96127529; PubMed=8590279;

MEDLINE=96127529; PubMed=8590279;
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  Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=3702;
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stis sp. (strain PCC 6803).
Cyanobacteria; Chroococcales; Synechocystis.
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C.Y., Utterba
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edons; core e
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02-MAR-2004
02-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Churcher C.M., Bowman S., Badcock K., Bankier A., Brown D., Chillingworth T., Connor R., Devlin K., Gentles S., Hamlin N., Harris D.E., Horsnell T., Hunt S., Jagels K., Jones M., Lye G., Moule S., Odell C., Pearson D., Rajandream M.A., Rice P., Rowley Skelton J., Smith V., Walsh S., Whitehead S., Barrell B.G.; "The nucleotide sequence of Saccharomyces cerevisiae chromosome Nature 387:84-87(1997).
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Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical 105.5 kDa protein in RPL2B-SNL1 intergenic region. OrderedLocusNames=YIL017C;
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                       02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                             BAD00308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein. SEQUENCE 921 AA; 1
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STRAIN=S288c / ABS
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Pred. No. 3e+02;
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 921;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rowley N.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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RESULT
Q6CLB5
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Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                        Dujon B., Sherman D., Fischer G., Durrens P., Casaregola S.,
A Lafontaine I., de Montigny J., Marck C., Neuveglise C., Talla E.,
A Lafontaine I., de Montigny J., Marck C., Neuveglise C., Talla E.,
A Goffard N., Frangeul L., Aigle M., Anthouard V., Babour A., Barbe V.
Barnay S., Blanchin S., Beckerich J.M., Beyne E., Bleykasten C.,
A Boisrame A., Boyer J., Cattolico L., Confanioleri F., de Daruvar A.
A Despons L., Fabre E., Fairhead C., Ferry-Dumazet H., Groppi A.,
A Despons L., Fabre E., Fairhead C., Ferry-Dumazet H., Groppi A.,
A Hantraye F., Hennequin C., Jauniaux N., Joyet P., Kachouri R.,
A Kerrest A., Koszul R., Lemaire M., Lesur I., Ma L., Muller H.,
A Kerrest A., Koszul R., Lemaire M., Diter-Kalogeropoulos O.,
Pellenz S., Potter S., Richard G.F., Strrub M.L., Suleau A.,
A Swennene D., Tokaia F., Wesolowski-Louvel M., Westhof E., Wirth B.,
Zeniou-Meyer M., Zivanovic I., Bolotin-Fukuhara M., Thierry A.,
Buchier C., Caudron B., Scarpelli C., Gaillardin C., Weissenbach J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
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NON_TER
NON_TER
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01-OCT-2004 (TrEMBLrel. 28, Created
01-OCT-2004 (TrEMBLrel. 28, Last se
01-OCT-2004 (TrEMBLrel. 28, Last an
Similar to sp[P38235 Saccharomyces
ORFNames=KLLAOF043019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kluyveromyces lactis (Yeast).
Eukaryota; Fungi; Ascomycota;
Saccharomycetales; Saccharomyc
                                                                                                                                                         SEQUENCE
                                                                                                                                                                                 Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases EMBL; CR382126; CAG97982.1; -.
                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN=NRRL Y-1140;
                                                                                                                                                                                                                                                                                                                                        "Genome evolution in yeasts.";
Nature 430:35-44(2004).
                                                                                                                                                                                                                                                                                                                                                                                   Wincker P., Souciet J.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENOLEVURES;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
STRAIN=NRRL Y-1140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=28985;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Honda T., Akahori Y., Kurosawa Y.; "Libraries of heavy-chain antibodies reflecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AB091946; BAD00308.1;
ER 1 1
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     N
                                                  Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
     KLGTYYFDS 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
121 AA;
                                                                                                                                                         338 AA;
                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                         38362 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12879 MW;
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                                                                               68.5%;
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Last annotation update)
romyces cerevisiae YBR053c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                            Score 37;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Saccharomycotina; Saccharomycetes; cetaceae; Kluyveromyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                            DBD1603F135D96D5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10BCB007D5AE7FAD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
                                                                                                          DB 2;
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                                                                                  .8e+02;
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                                                                                                          Length 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          camel gamma2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Camelus
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KNGPYYFDS

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RESULT 31

Q8QUM8

ID Q8QUM

C Q8QUM

T Q1-UI

DT Q1-UI

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                                                                                                                                                                 Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

A Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Butow K.H., Schaefer C.F., Bhat N.K.,

A Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Blatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

A Brownstein M.J., Usdin T.B., Toshiyuki S., Carvinci P., Prange C.,

A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunararne P.H.,

A Hilalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

A Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

A Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

A Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

B Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

B Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

B RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

A Topes S. J. Warra M. A., Schmutz J., Myers R.M., Schein J.E.,

B RA Rodriguez A.C., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
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Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QBWV03
PKELLING....
QBWV03;
O1-WAR-2002 (TrEMBLrel. 20, Created)
O1-MAR-2002 (TrEMBLrel. 20, Last sequence update)
O1-OCT-2004 (TrEMBLrel. 28, Last annotation update)
O1-CT-2004 (TrEMBLrel. 28, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8QUM8;
Q8QUM8;
01-JUN-2002
01-JUN-2002
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE=Colon, and Kidney;
MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Complete genome analysis of the mandarin fish infectious kidney necrosis iridovirus."; Virology 291:126-139(2001).
EMBL; AF371960; AAL98806.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=21874810; PubMed=11878882; He J.G., Deng M., Weng S.P., Li Z., Chan S.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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                                                          and mouse cDNA sequences.
Proc. Natl. Acad. Sci. U.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=180170;
                                                                                                                     'Generation and initial analysis of more than 15,000
                                                                                                                                              Jones S.J., Marra M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     n 68.5%;
Similarity 66.7%;
6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KMGTMYYDS 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KLGTYYFDS 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel.
(TrEMBLrel.
(TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA; 40658 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 37;
Pred. No. 1
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                                                             99:16899-16903 (2002)
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                                                                                                                  full-length human
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RESULT
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Best Local Similarity
Matches 7; Conserv
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01-OCT-2002
01-OCT-2002
01-MAR-2004
                                                                                                                                                                                                                                                                                                                       O815Q4 PRELIMINARY; PRT; 522 AA.

O815Q4;
O1-JUN-2003 (TrEMBLrel. 24, Created)
O1-JUN-2003 (TrEMBLrel. 24, Last sequence update)
O1-OCT 2003 (TrEMBLrel. 25, Last annotation update)
NADH oxidase (NOXASE) (EC 1.6.99.3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-OCT-2002 (TrEMBLrel. 22, Cr
01-OCT-2002 (TrEMBLrel. 22, La
01-MAR 2004 (TrEMBLrel. 26, La
Hypothetical protein PSEC0251.
Homo sapiens (Human)
                       SEQUENCE FROM N.A.

MEDLINE=22608415; PubMed=12721630; DOI=10.1038/nature01582;
IVanova N., Sorokin A., Anderson I., Galleron N., Candelon I.
Kapatral V., Bhattacharyya A., Reznik G., Mikhailova N., Lal
Kapatral V., Bhattacharyya A., Larsen N., D'Souza M., Walun
Chu L., Mazur M., Goltsman E., Larsen N., D'Souza M., Walun
Chu L., Mazur M., Goltsman R., Fonstein M., Ehrlich S
Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Ehrlich S
Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Soverbeek R., Kyrpides N.C.;
                                                                                                                                                                                                                  Bacillus cereus (strain ATCC 14579 / DSM 31).
Bacteria; Firmicutes; Bacillales; Bacillaceae;
NCBI_TaxID=226900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

Ota T., Nishikawa T., Suzuki Y., Kawai-Hio Y., Hayashi K
Saito K., Yamamoto J., Wakamatsu A., Nagai T., Nakamura
Nagahari K., Sugano S., Isogai T.;

Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AKO75551; BAC11694.1; -.

SEQUENCE 393 AA; 43806 MW; 3C788AFDF933A23D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91ENBQ
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Submitted (NOV-2002) to the EMBL/GenBank/DDBJ EMBL; BC019036; AAH19036.1; -.
EMBL; BC039067; AAH39067.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; BC019036; AAH19
EMBL; BC039067; AAH39
Hypothetical protein.
                                                                                                                                                                                                                                                                                                    ORFNames=BC5081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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TISSUE=Colon;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9606;
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Pred. No.
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cereus and comparative analysis with
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Nakamura Y.,
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                                                                                                  Lapidus A.,
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Best Local S
Matches 6
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Best Local S
Matches 6
                                                                                                                                                                                                                                                                                            Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Don Chen Y., Xue Y., Xu Y., Lai X., Huang L., Dong X., Tan H., Chen R., Wang J., Yu J., Yang H., Dong X., Tan H., Chen R., Wang J., Yu J., Yang H.;

"A complete sequence of the T. tengcongensis genor Genome Res. 12:689-700(2002).

EMBL; AE013021; AAM23784.1; -.

GO; GO:0009286; C:flagellum (sensu Bacteria); IEA GO; GO:0009286; P:flagellum biogenesis; IEA.

InterPro; IPR010810; Flagellin_IN.

InterPro; IPR010810; Flagellin_IN.

InterPro; IPR010810; FliD_C.

InterPro; IPR010810; FliD_N.

Pfam; PF07196; Flagellin_IN; 1.

Pfam; PF07196; Flagellin_IN; 1.

Pfam; PF07195; FliD_N; 1.

Complete proteome; Flagellum.

SEQUENCE 529 AA; 58032 MW; IF31EB63C1623A19 C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus anthracis.

Nature 423:87-91(2003).

Nature 423:87-91(2003).

EMBL; AE017014; AAP11950.1; -.

GO; GO:0003954; F:NADH dehydrogenase activity; IEA.

GO; GO:0016491; F:oxidoreductase activity; IEA.

Oxidoreductase.

COXIDOREDE 522 AA; 61087 MW; 551097794FD59855 CR
                                                                      Q9RKF0
Q9RKF0;
01-MAY-2000 (TEEMBLrel. 13, C
01-MAY-2000 (TEEMBLrel. 13, I
01-JUN-2003 (TEEMBLrel. 24, I
                    Putative hydrolase.
OrderedLocusNames=SCO3487; ORFNames=SCE65.23;
Streptomyces coelicolor.
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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Streptomycineae; Streptomycetaceae;
NCBI_TaxID=1902;
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Bacteria; Firmicutes; Clostridia; Thermoanaerobacteriales;
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Pred. No. 2.
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Last sequence update)
Last annotation update)
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Pred. No. 2.7e-
1; Mismatches
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          Streptomyces
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2.7e+02;
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2.7e+02;
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                                                                                                                                                                                                                                                                     Length 529;
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PMBL; ACUURANCE,
PIR; T02130; T02130.

GO; GO:0003677; F:DNA binding; IEA.
GO; GO:0003677; F:DNA binding; IEA.
GO; GO:0003242; P:intracellular signaling cascade; IEA.
GO; GO:0006355; P:regulation of transcription, DNA-dependent; IEA
InterPro; IPR011424; Cl 3.
R InterPro; IPR002219; DAG PE-bind.
IR InterPro; IPR002219; DAG PE-bind.
IR InterPro; IPR004146; DC1.
IR InterPro; IPR0001416; DC1.
IR InterPro; IPR000834; Peptidase_M14.
DR InterPro; IPR001965; Znf_PHD.
DR InterPro; IPR001965; Znf_PHD.
DR Pfam; PF03107; Cl 2; 3.

Pfam; PF03107; Cl 2; 3.
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Vysotskaia V.S., Schwartz J.R., Toriumi M., Kwan A.,

Vysotskaia V.S., Schwartz J.R., Toriumi M., Kwan A.,

Liu J., Araujo R., Au M., Brendel V., Buehler

Conway A.R., Dewar K., Feng J., Kim C., Kurtz D., Li

Shinn P., Sun H., Davis R.W., Ecker J.R., Federspiel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F8K4.5 protein.

Name=F8K4.5;
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coelicolor A1(2).";
Mature 417:141-147(2002).
EMBL; AL939116; CAB61811.1; -.
GO; GO:0016787; F:hydrolase activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Theologis;
Submitted (AUG-1998) to the
EMBL; AC004392; AAC28517.1;
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Pred. No.
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Q66N5E JU Q6NSE AC Q6NSE AC Q6NSE AC Q6NSE DT 05-JU DT 05
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Q6NSD8;
Q6NSD8;
Q6NSD8;
Q6NSD8;
Q6-JUL-2004 (TrEMBLrel. 27, L
Q5-JUL-2004 (TrEMBLrel. 27, L
Hypothetical protein.
QrderedLocusNammesPh3041;
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STRAIN-VPI-5482 / ATCC 29148;

MEDLINE=22550858; PubMed=12663928;

MEDLINE=22550858; PubMed J. Deng S., Carmichael L.K.,

Xu J., Bjursell M.K., Himrod J., Deng S., Carmichael L.K.,

Chiang H.C., Hooper L.V., Gordon J.I.;

"A genomic view of the human-Bacteroides thetaiotaomicron symbiosis.";

Science 299:2074-2076(2003).

Science 299:2074-2076(2003).

EMBL; AB016927; AA075403.1; -.

EMBL; AB016927; Pand75403.1; -.

EGO; GO:0016829; F:lyase activity; IEA.
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QBAB16; QBAB16; QBAB16; QBAB16; Q1-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Putative xanthan lyase XalB.
OrderedLocusNames=BT0296;
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SMART; SM00249; PHD; 4.
PROSITE; PS00133; CARBOXYPEPT ZN 2; UNKNOWN 1.
SEQUENCE 814 AA; 93000 MW; EEBE79A280002C74 CRC64;
                            SEQUENCE FROM N.A.

STRAIN-CGA009 / ATCC BAA-98;
PubMed=14704707; DOI=10.1038/nbt923;
PubMed=14704707; DOI=10.1038/nbt923;
Larimer F.W., Chain P., Hauser L., Lamerdin J.E., Malfatti S.,
Land M.L., Pelletier D.A., Beatty J.T., Lang A.S., Tabita F.R.,
Gibson J.L., Hanson T.E., Bobbt C., Torres y Torres J.L., Peres
Harrison F.H., Gibson J., Harwood C.S.;
"Complete genome sequence of the metabolically versatile
photosynthetic bacterium Rhodopseudomonas palustris.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rhodopseudomonas palustris.
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaccae; Rhodopseudomonas.
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Bacteria; Bacteroidetes; Bacteroides
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF04173; DoxD; 1. — ProDom; PD010195; Surf4 rel; 1. Complete proteome; Hypothetical protein. SEQUENCE: 149 AA; 15385 MW; 3D765810D9228D43 CRC64;
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02-MAR-2004 (TrEMBLrel.
02-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                               Hypothetical protein. SECUENCE 149 AA; 1
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Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Rhodopseudomonas.
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
ATCC BAA-98;
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NCBI_TaxID=1076;
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GenCore version 5.1.6 (c) 1993 - 2004 Compu

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SUMMARIES

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ALIGNMENTS

RESULT 1 AAW70614 ID AAW7 XX AAW7 XX AAW1 DT 27-J DX AAM1 XX L143 KW L143 KW YEGH KW OSS MUS XX SYNT OS SYNT OS SYNT OS SYNT OS SYNT OS MUS PN WOSI XX OT-J PF 03-J XX OT-J PF 15-C CC The CC The CC The CC Gigg CC the Synthetic. Mus sp. Light chain hypervariable region; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF antibody; VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy; rheumatoid arthritis; psoriasis; atherosclerosis; Grave's disease. 07-APR-1997; 06-AUG-1997; 27-JAN-1999 (GETH) GENENTECH INC. 03-APR-1998; 15-OCT-1998. WO9845331-A2 Anti-VEGF antibody light chain hypervariable region CDRL1. AAW70614; AAW70614 standard; (first entry) 97US-00833504. 97US-00908469. 98WO-US006604. peptide; 11 B

New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.

WPI; 1998-568337/48.

Baca M, Wells JA, Presta LG,

Lowman

HB,

Chen

Claim 9; Page 80; 100pp; English.

The present sequence represents a light chain hypervariable region of the murine anti-vascular endothelial growth factor (anti-VEGF) antibody. The sequence is used to construct the humanised anti-VEGF antibody of the invention. The humanised antibodies are used to inhibit VEGF-induced angiogenesis, particularly for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They can also be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis,

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RESULT 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention describes a monoclonal antibody which can react specifically with ganglioside GOJ. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
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                      ABP61183;
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06-APR-2000; 2000JP-00105088.
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0.0043;
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                                                                                                                                                                                                                                                                                                                                 DB 4;
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                                                                                                                                                                                                                                                                                                                            Length 11;
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RESULT 4
ABU11007
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Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                  The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain hypervariable domain of the humanised anti-VEGF antibody of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
                                                                                                                                                                                                                                                                                                                              Sequence 11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 9; Page 31; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraccular neovascular disorder; light chain;
                         WO200278739-A1
                                               Mus musculus.
                                                                      Ganglioside GD3;
                                                                                              Modified ganglioside GD3
                                                                                                                       04-FEB-2003
                                                                                                                                               ABU11007
                                                                                                                                                                      ABU11007 standard; peptide;
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(WELL/)
(PRES/)
(LOWM/)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypervariable domain; CDRL1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Humanised anti-VEGF antibody light chain hypervariable domain, CDRL1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-SEP-2002
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TRESTA L G.
TMAN H B.
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                                                                                                                                                                                                                                                                                            Similarity
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                                                                                                                                                                                                                                                                             100.0%; ilarity 100.0%; Conservative 0
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                                                                       anti-ganglioside GD3 antibody; tumour; melanoma
                                                                                                                       entry)
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                                                                                               associated peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                              01-MAR-2002; 2002US-0360843P
29-MAY-2002; 2002US-0384197P
                                                                                                                                                                                                                                                                                                                 Antibody; stability; solubility; antigen binding affinity;
                                                                                                                                                                                                                                                                                                                                                                                              ADF09995;
                                                                                                                                                                                                                                                                                                                                                                                                                      ADF09995 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 11 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 6; Page 99; 121pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-MAR-2002; 2002WO-JP003170
                                               Computer optimization of physicochemical properties of antibodies comprises analyzing the interactions of amino acids at variable
                                                                                                             Lazar GA,
                                                                                                                                                                                                     03-MAR-2003; 2003WO-US006598
                                                                                                                                                                                                                                                    WO2003074679-A2
                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                    variable region; human.
                                                                                                                                                                                                                                                                                                                                         Antibody light chain variable region 1CZ8(1D-33).
                                                                                                                                                                                                                                                                                                                                                                     12-FEB-2004
                                                                                                                                       (XENC-) XENCOR.
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                                                                                                                                                                                                                                                                                                                                                                                                                      protein; 103
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                                                                                                             JR,
                                                                                                             Marshall SA,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 54;
Pred. No.
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3D3 antibody
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Disclosure; Fig

2b; 135pp; English

physico-chemical properties of an

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RESULT 6
ADF10099
ID ADF10099
ID ADF10099
ID AC ADF1
XX ADF1
XX ADF1
XX ADF1
XX ADF1
XX VEGF
XX VEGF
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PR 03-W
PR 01-N
PR 29-N
XX ATTI
COMMUNICATION
PR 29-N
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COMMUNICATION
PR EXAM
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Best Local Similarity
                           The present invention relates to a method for optimizing at least one physico-chemical property of an antibody by a computational screening method. The method comprises: receiving a template antibody structure; selecting at least one variable position belonging to the antibody structure; selecting at least one amino acid to be considered at the variable position(s); analyzing the interaction of each selected amino acid at each variable position with at least part of the remainder of the antibody, including the selected amino acids at other variable positions; and identifying a set of at least one antibody sequence with at least one optimized physico-chemical property. The method is useful for optimizing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Computer optimization of physicochemical properties of antibodies comprises analyzing the interactions of amino acids at variable
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29-MAY-2002; 2002US-0384197P.
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                                                                                                                                                                                                                                                                                                                                                                                            Example 6; Fig 16b; 135pp; English
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Pred. No.
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RESULT 8
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                                                                                                                    Query Match
Best Local Similarity
Matches 11; Conserv
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Best Local Similarity
Matches 11; Conserv
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                                                                                                                                                                                        hu2.0. This variant contains only the complementarily-determining regions (CDRs) from the murine antibody grafted on to a human light chain K subgroup I and heavy chain subgroup III framework. Antibodies are especially reactive with vascular endothelial growth factor (VEGF) and are used to inhibit growth of tumours by inhibiting mitogenic signalling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 103 AA;
          AAW86805 standard;
                                                                                                                                                                    Sequence 107
                                                                                                                                                                                                                                                                            Claim 6; Page 30-31; 45pp; English.
                                                                                                                                                                                                                                                                                                              New humanised antibody with specific alterations in human framework - specifically reactive with vascular endothelial growth factor, useful
                                                                                                                                                                                                                                                                                                                                                                          Wells JA,
                                                                                                                                                                                                                                                                                                                                                                                                                           07-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9845332-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Complementarily-determining vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Variable Light
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW86804;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW86804 standard; protein; 107
                                                                                                                                                                                                                                                      AAW86804 is the variable light region of the humanised A4.6.1 variant
                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                    (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SASQDISNYLN 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SASQDISNYLN 11
                                                                                          SASQDISNYLN 11
                                                                     SASQDISNYLN 34
                                                                                                                                                                                                                                                                                                                                                                           Васа М,
                                                                                                                  100.0%; Score 54; ilarity 100.0%; Pred. No. Conservative 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                    A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               domain
                                                                                                                                                                                                                                                                                                                                                                                                                           97US-00833504
                                                                                                                                                                                                                                                                                                                                                                                                                                                   98WO-US006724
          protein; 107
                                                                                                                                                                                                                                                                                                                                                                            Presta LG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          regions; CDRs; murine; antibody; VEGF;
factor; humanised antibody; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 54; DB Pred. No. 0.0 0; Mismatches
          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 7;
                                                                                                                               0.058;
                                                                                                                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                         Length 107;
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                                                                                                                     Indels
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RESULT 9
AAW70623
ID AAW7
AC AAW7
AC AAW7
AC Huma
XX Huma
XX Huma
XX Uigh
KW Ligh
KW VEGH
KW antii
KW VEGH
KW age-
KW Age-
KW Age-
KW Wage-
KW Wage-
KW WOGH
DD 15-(
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Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW86805 is the variable light region of the humanised A4.6.1 variant hu2.10. This variant is the consensus humanised Clone obtained from phage sorting experiments. These antibodies are especially reactive with vascular endothelial growth factor (VEGF) and are used to inhibit growth of tumours by inhibiting mitogenic signalling
                                                                                                                                       Light variable domain; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy; rheumatoid arthritis; psoriasis; atherosclerosis; Grave
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New humanised antibody with specific alterations in human framework specifically reactive with vascular endothelial growth factor, usefu inhibiting tumour growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antibody; VEGF; vascular endothelial growth factor; humanised antibody; tumour; mitogenic; phage sorting.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW86805;
                                                                                                                                                                                                                          Humanised murine antibody A4.6.1 variant hu2.0 variable light domain.
                                                                                                                                                                                                                                                       27-JAN-1999
                                                                                                                                                                                                                                                                                 AAW70623;
                                                                                                                                                                                                                                                                                                            AAW70623 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1998-594479/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wells JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Variable Light domain 2.
 03-APR-1998;
                           15-OCT-1998
                                                       WO9845331-A2
                                                                                    Homo
                                                                                                 Synthetic.
Mus sp.
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                                                                                   sapiens.
                                                                                                                                                                                                                                                                                                                                                                                  24
                                                                                                                                                                                                                                                                                                                                                                                                                                      11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                  SASQDISNYLN 34
                                                                                                                                                                                                                                                                                                                                                                                                     SASQDISNYLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Page 31; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Васа м,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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  98WO-US006604.
                                                                                                                                                                                                                                                                                                            peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                             11
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                                                                                                                                                                                                                                                                                                               107
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Pred. No. 0.058;
; Mismatches (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 107;
                                                                                                                                           Grave's
                                                                                                                                                                                    anti-VEGF antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                             disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          murine anti-vascular endothelial growth factor (anti-VEGF) antibody variant hu2.0. The sequence is used in the course of the invention to construct the humanised anti-VEGF antibody of the invention. The humanised anti-bodies are used to inhibit VEGF-induced angiogenesis, particularly for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They can also be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis, atherosclerosis, Grave's disease, etc
                                                                                                                                                                                                                                                                              Light variable domain; murine; humanised antibody; anti-vascular endothelial growth factor antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence represents a variable light domain of the humanised
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
            WPI; 1998-568337/48
                                                                                   07-APR-1997;
06-AUG-1997;
                                                                                                                                               15-OCT-1998.
                                                                                                                                                                       WO9845331-A2
                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                       VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
                                                                                                                                                                                                                                                                                                                   Humanised murine antibody A4.6.1 variant hu2.10 variable light domain.
                                                                                                                                                                                                                                                                                                                                                                                           AAW70625 standard; peptide; 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Baca M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-APR-1997;
06-AUG-1997;
                                                                                                                      03-APR-1998;
                                                                                                                                                                                                                                             rheumatoid
                                                           (GETH )
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
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                                    Z,
                                                                                                                                                                                              sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11;
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                                                          GENENTECH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wells JA,
                                   Wells JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SASQDISNYLN 34
                                                                                                                                                                                                                                             arthritis; psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fig 5A; 100pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                             (first
                                                                                  97US-00833504
97US-00908469
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97US-00908469.
                                                                                                                       98WO-US006604
                                                           INC.
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                                    Presta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%;
                                    ឧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 54; DB
Pred. No. 0.0
); Mismatches
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                                    Lowman
                                                                                                                                                                                                                                             atherosclerosis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
0.058;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 107;
                                                                                                                                                                                                                                            Grave's disease
                                                                                                                                                                                                                                                                                anti-VEGF antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
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RESULT 11
ABP61192
ID ABP61192
AC ABP61
AC AC CYtos
CW Vascu
KW Vascu
KW Vascu
KW Varia
KW Varia
KW Varia
KW Varia
AC CYtos
OS Synth
XX US200
AC WARE
PN US200
AC WARE
PN 06-AI
XX (BAC)
PA (CHEI
PA (CHE
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Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents a variable light domain of the humanised murine anti-vascular endothelial growth factor (anti-VEGF) antibody variant hu2.10. The sequence is used in the course of the invention to construct the humanised anti-VEGF antibody of the invention. The humanised anti-bodies are used to inhibit VEGF-induced angiogenesis, particularly for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They can also be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
                                                                                                                             New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 107 AA;
                                                                                                                                                                                                                                        WPI; 2002-517920/55.
                                                                                                                                                                                                                                                                                                                                                                                                   (WELL/)
(PRES/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-MAR-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             variable domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                retinal disorder; intraocular neovascular disorder; light chain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Humanised anti-VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-SEP-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atherosclerosis, Grave's disease, etc
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                                                                                                                                                                                                                                                                                                                                               CHEN/)
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                                                                                                                                                                                                                                                                                                                                             ) WELLS J A.
) PRESTA L G.
) LOWMAN H B.
) CHEN Y M.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       BACA M.
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                                                                                                                                                                                                                                                                                      Wells JA,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antibody
                                                                                                                                                                                                                                                                                            Presta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
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Pred. No. 0.0
0; Mismatches
                                                                                                                                                                                                                                                                                            Lowman HB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ጅ
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                                                                                                                                                                                                                                                                                            Chen
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The present endothelial

invention relates to humanised growth factor) antibodies or a

anti-VEGF (vascular variant of a parent

anti-VEGF

Example

2; Fig

5; 47pp; English.

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RESULT 12
ABP61194
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                                                                        The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain variable domain of the humanised anti-VEGF antibody of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; light chain;
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                                                                                                                                                                                                    New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                 Sequence 107
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           anti-vascular endothelial growth factor antibody; anti-
VEGF-induced angiogenesis; tumour; retinal disorder;
age-related macular degeneration; diabetic retinopathy;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           atherosclerosis,
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                                                                                                  standard; peptide; 108
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                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 108
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06-AUG-1997;
                                                        Light variable domain; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
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VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Baca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
                                                        30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                                                                                                     Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 108 AA;
                                                                                                                                      29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                         05-APR-2001
                                                                                                                                                                                                                                         WO200123432-A1
                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                    Ganglioside;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 12; Page 4; 100pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1998-568337/48.
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06-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-APR-1998;
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97US-00908469.
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Pred. No.
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                                                                                                                                         The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
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06-APR-2000; 2000JP-00105088
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Sequence 108
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                                                                                                                                                                                                                                                                                                                                                                                                            Page 143-144; 183pp; Japanese.
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Pred. No.
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RESULT 19
ABP61189
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Best Local Similarity 100.0%;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ganglioside
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06-APR-2000; 2000JP-00105088.
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                                                                                                                                                       protein; 108
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Pred. No. 0.058;
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Pred. No. 0.058;
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Murine anti-VEGF

muMabVEGF

A.4.6.1

antibody variable light

20-SEP-2002

(first entry)

ABP61189

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Best Local Similarity
Matches 11; Conserv
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                                                                                                            Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; light chain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                                                                                                                                  Humanised anti-VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 108
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Location/Qualifiers
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                                                             Mus sp.
                                                                                                   variable domain.
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                                                                       Homo sapiens
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PRESTA L G.
LOWMAN H B.
CHEN Y M.
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                                                                                                                                                                                                                                           protein; 108
                                                                                                                                                                 antibody variable light
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100.0%; Pred. No. 0.0
Live 0; Mismatches
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RESULT 21
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                                                                                                                                                                                      Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; F(ab) (F(ab)-12);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                           06-AUG-1997;
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                                                  06-APR-1998;
                                                                                                  US2002032315-A1.
                                                                                                                          Synthetic.
                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                         Humanised
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  (BACA/) BACA M.
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LOWMAN H
CHEN Y M.
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                                                                                                                                                                                                                                         anti-VEGF F(ab) (F(ab)-12) antibody variable light domain.
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                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                           97US-0054856P
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Matches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain variable domain of the humanised anti-VEGF antibody of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Baca
                  The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tume antitumor activity in combination.
                                                                                                                                                                                                     Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABU11011 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 10; Fig 1; 47pp; English.
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(PRES/)
(LOWM/)
(CHEN/)
  antitumor activity like melanoma and c
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                                                                                                                                                    8; Page 100; 121pp; Japanese.
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CHEN Y
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                                                                                                                                                                                                                                                                                                                                                                                                                     KYOWA HAKKO
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                                                                                                                                                                                                                                                                                                                                                               Niwa R,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GD3; anti-ganglioside GD3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 54;
100.0%; Pred. No.
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RESULT 24 ADG31770 ID ADG3 XX

ADG31770

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RESULT 23
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                                                             Query Match
Best Local S
Matches 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 108
                                                                                                                                                      like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                              Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modified ganglioside GD3 antibody associated protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ganglioside GD3; anti-ganglioside GD3 antibody;
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                                                                                                                          Sequence 108 AA;
                                                                                                                                                                                                                                                                                                    Claim 7; Page 113; 121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-067410/06.
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ilarity 100.0%;
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                                                                                              Length 108
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D3 antibody
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RESULT 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This invention relates to a novel method for the generation and screening CC of a protein library in silico. Specifically, it refers to a high-cc throughput method optimised for the identification of anti-VEGF (vascular cc endothelial growth factor) antibodies with improved binding affinities cf for their target antigen (VEGF), using computational prediction. The CC present invention describes selecting proteins with a desirable function based on their structural similarity to the target structural or CC functional motif of a lead protein of interest. Accordingly, these protein libraries are functionally biased with increased diversity so as to increase the chance of identifying novel hits or combinations of CC mutants with enhanced binding affinity. Furthermore, the sequence profile based on the multiple structure alignment of the available lead structure allows the sampling of a larger sequence space than by traditional, cultiple sequence alignment approaches. This polypeptide sequence is the V(L) domain of affinity matured humanied murine anti-VEGF antibody, used in an exemplification of the invention.
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Best Local
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                                                         V(L) domain of the anti-VEGF two chain antibody AM2 protein SegID 16.
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protein library; in silico; VEGF; vascular endothelial growth factor;
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                                                                                                                                                                                                                                                    ADG31782 standard;
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20-MAY-2002; 2002US-00153176.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 54; DB 8;
Pred. No. 0.058;
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RESULT 26
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V(L)
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EW Prote
KW antih
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OS Synth
OS Mus &

26-FEB-2004 ADG31768;

(first entry)

ADG31768 standard;

protein;

108

B

protein library; in silico; VEGF; vascular endothelial growth factor; antibody; computational prediction; V(H) domain; mouse; murine. V(L) domain of parental humanised murine anti-VEGF antibody SeqID2.

Synthetic

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Matches 11
                                                                                                                        for their target antigen (VEGF), using computational prediction. The present invention describes selecting proteins with a desirable function based on their structural similarity to the target structural or functional motif of a lead protein of interest. Accordingly, these protein libraries are functionally biased with increased diversity so as to increase the chance of identifying novel hits or combinations of mutants with enhanced binding affinity. Furthermore, the sequence profile based on the multiple structure alignment of the available lead structure allows the sampling of a larger sequence space than by traditional, multiple sequence alignment approaches. This polypeptide sequence is the V(L) domain of the anti-VEGF two chain antibody AMU protein, used in an exemplification of the invention.
                                                                                               Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                       This invention relates to a novel method for the generation and screen of a protein library in silico. Specifically, it refers to a highthroughput method optimised for the identification of anti-VEGF (vasculendothelial growth factor) antibodies with improved binding affinities
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Unidentified.
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                                                                                                                                                                                                                                                                                                           protein library; in silico; VEGF; vascular endothelial growth factor; antibody; computational prediction; V(1) domain.
                                                                                                                                                                                                                                                                                                                                                                                                      V(L) protein sequence of various anti-VEGF antibodies SeqID 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This invention relates to a novel method for the generation and screening of a protein library in silico. Specifically, it refers to a highthroughput method optimised for the identification of anti-VEGF (vascular endothelial growth factor) antibodies with improved binding affinities
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Constructing antibody libraries for generating protein libraries with improved biological function comprising selecting from tester protein sequences two peptide segments having 15% sequence identity with the lead
                                                                                                                                           Disclosure; SEQ ID NO 127; 354pp; English.
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of a protein library in silico. Specifically, it refers to a high-controlled protein library in silico. Specifically, it refers to a high-controlled protein library in silico. Specifically, it refers to a high-controlled protein method optimised for the identification of anti-VEGF (vascular controlled protein) antibodies with improved binding affinities for their target antigen (VEGF), using computational prediction. The present invention describes selecting proteins with a desirable function their structural similarity to the target structural or controlled protein libraries are functionally biased with increased diversity so as to increase the chance of identifying novel hits or combinations of controlled binding affinity. Furthermore, the sequence profile based on the multiple structure alignment of the available lead structure allows the sampling of a larger sequence space than by traditional, complished sequence of various anti-VEGF antibodies, used in an exemplification of the invention.

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Pred. No. 0.058;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Light variable domain; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy; because it is a second to the control of the c
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06-AUG-1997;
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    (GETH ) GENENTECH INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      anti-vascular endothelial growth factor antibody; anti-
VEGF-induced angiogenesis; tumour; retinal disorder;
age-related macular degeneration; diabetic retinopathy;
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                                                              New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
                                                                                                                                                                                                                                                                                                                                                                                07-APR-1997;
06-AUG-1997;
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Example 3; Fig 9A; 100pp; English
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97US-00908469.
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                                                                                                                                                                                                                                                                                                                                            New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
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06-AUG-1997;
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anti-vascular endothelial growth factor antibody; anti-
VEGF-induced angiogenesis; tumour; retinal disorder;
age-related macular degeneration; diabetic retinopathy;
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The present sequence represents a variable light domain of an affinity-matured anti-vascular endothelial growth factor (anti-VEGF) antibody variant. The sequence is used in the course of the invention to produce the humanised anti-VEGF antibody of the invention. The humanised anti-VEGF antibody of the invention. The humanised for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They can also be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis, atherosclerosis, Grave's disease, etc

Claim 27; Fig 10A; 100pp; English.

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06-AUG-1997;
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VEGF-induced angiogenesis; tumour; retinal disorder;
age-related macular degeneration; diabetic retinopathy;
                                                                                                                                                                                                               Sequence 110 AA;
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Pred. No.
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RESULT 33
AAB13380
ID AAB1
XX
AC AAB1
XX
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ARBOS897
ID ARBOS897
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XX 17-OC
XX 17-OC
XX Human
XX Human
XX Phage
KW Phage
KW retin
XX OCC
OS Synth
XX OCC
XX 18-NO
XX 18-NO
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XX WPI;
XX ARTI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is the light chain variable domain of F(ab)-12, a humanised anti-vascular endothelial growth factor (VEGF) antibody. F(ab)-12 was the parent antibody used in the production of a large number of antibody variants containing randomised peptide inserts within the complementarity determining regions (CDRs). Phage display libraries were subjected to eight rounds of selection to isolate variants with an antigen binding affinity at least two-fold stronger than the binding affinity of parent antibody for the target VEGF antibody. The anti-VEGF antibody variants may be useful in diagnostic assays for detecting expression of VEGF in cells, tissue or serum. They may also be used in the prevention and treatment of neoplastic diseases such as breast cancer, lung cancer and retinoblastoma, and non-neoplastic diseases including rheumatoid arthritis, psoriasis, atherosclerosis, and diabetic and other proliferative retinopathies
                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Humanised; F(ab)-12; light chain variable domain; antibody variant; phage display; randomised library; cytostatic; antiarthritic; antiquiabetic; antiinflammatory; antiarriosclerotic; vascular endothelial growth factor; VEGF; breast cancer; lung cancer; retinoblastoma; rheumatoid arthritis; psoriasis; atherosclerosis; diabetic retinopathy; complementarity determining region; CDR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibody variants with higher binding affinity than native antibodies useful for diagnosis, prevention and treatment of neoplastic and non-neoplastic diseases comprises amino acid insertion in hypervariable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB05897 standard; peptide; 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 110 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-OCT-2000
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                                                                                                                                                                                                                                                                      24
                                                                                                                                                                                                                                                                                                                                                                                         11;
                                                                                                                                                                                                                                                                                                                               1 SASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                      SASODISNYLN
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                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                      34
                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 54; DB 3; 100.0%; Pred. No. 0.059;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 110;
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AAB13380;

AAB13380 standard;

protein; 110

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RESULT 34
AAB13376
ID AAB13
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                                                                                                                                                     Query Match
Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 14A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Treating edema, tumors, rheumatoid arthritis, psoriasis, atherosclerosis, diabetes and chronic inflammation in a mammal, comprises administering a human vascular endothelial cell growth factor antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antithyroid; excessive neovascularisation; tumour; rheumatoid arthritis; psoriasis; atherosclerosis; diabetes; retrolental fibroplasia; neovascular glaucoma; haemangioma; thyroid hyperplasia; Grave's disease; tissue transplantation; inflammation; oedema; trauma;
 AAB13376 standard; protein; 110 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2000-442646/38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              antiinflammatory; cerebroprotective; cytostatic; antirheumatic;
antiarthritic; antipsoriatic; antiarteriosclerotic; antidiabetic;
                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Van Bruggen N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (GETH ) GENENTECH INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complementarity determining region; CDR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YO317; vascular endothelial cell growth factor; VEGF; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Anti-VEGF antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-NOV-2000
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                                                                                                                                                cn 100.0%;
1 Similarity 100.0%;
11; Conservative (
                                                                                                                                                                                                                          110
                                                                                                           SASQDISNYLN 11
                                                                                      SASQDISNYLN
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89. .97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'label= CDR-L3
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                                                                                      34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDR-L1
                                                                                                                                                     0
                                                                                                                                                     Score 54; DB 3;
Pred. No. 0.059;
; Mismatches
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SASQDISNYLN 11

Query Match Best Local S Matches 11

Similarity

100.0%; ilarity 100.0%; Conservative (

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Score 54; DB 3; Pred. No. 0.059; ; Mismatches

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Length 110; Indels

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Gaps

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The present sequence is the light chain variable domain of humanised anticce -vascular endothelial cell growth factor (anti-vEGF) antibody F(ab)-12. It may be used to treat conditions characterised by undesirable excessive neovascularisation. Such conditions include tumours (especially solid cones), rheumatoid arthritis, psoriasis, atherosclerosis, diabetes and other retinopathies, retrolental fibroplasia, age-related macular degeneration, neovascular glaucoma, haemangiomas, thyroid hyperplasias (including Grave's disease), corneal and other tissue transplantation, and ascites associated with tumours, strokes and chronic inflammation. Oedemas associated with tumours, strokes and head trauma, and ascites associated with malignancies, meig's syndrome, clung inflammation, nephrotic syndrome, pericardial effusion and pleural effusion, may also be treated. Affinity matured anti-VEGF antibodies are also used as therapeutic agents. Monoclonal antibodies are generated in hybridoma cells and those with affinity for VEGF are identified by immunoprecipitation or by an in vitro binding assay. (Updated on 12-SEP-CC 2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antibody; antiinflammatory; cerebroprotective; cytostatic; antirheumatic antithytic; antipsoriatic; antiarthritic; antipsoriatic; antiarteriosclerotic; antidabetic; antithytoid; excessive neovascularisation; tumour; rheumatoid arthritis; psoriasis; atherosclerosis; diabetes; retrolental fibroplasia; neovascular glaucoma; haemangioma; thyroid hyperplasia; Grave's disease; tissue transplantation; inflammation; oedema; trauma; complementarity determining
                                                                                                                                                                                                                                                                                                                                                                Treating edema, tumors, rheumatoid arthritis, psoriasis, diabetes and chronic inflammation in a mammal, comprises human vascular endothelial cell growth factor antagonist
Sequence
                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 14A; 60pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-DEC-1998;
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21-NOV-2000
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(first entry)
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RESULT 35
ABP61242
ID ABP61
XX ABP61
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XX ABP61
XX ABP61
XX ABP61
XX Cytog
XW Vascu
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                                                                                       Matches
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Best Local
                                                                                                                                                                                                                            The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain variable domain of the humanised anti-VEGF antibody of the invention
                                                                                                                                                                                   Sequence 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Humanised anti-VEGF MB1.6 antibody variable light domain.
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                                                                                                                                                                                                                                                                                                                                                                                                                    Example 3; Fig 9; 47pp;
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(WELL/)
(PRES/)
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PRESTA L G
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CHEN Y M.
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                                                                                                                 Similarity
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                             SASQDISNYLN 11
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  SASQDISNYLN
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24..34
/label= CDR-L1
50..57
/label= CDR-L2
89..97
/label= CDR-L3
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                                                                                                                 100.0%;
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Pred. No.
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                                                                                            Mismatches
                                                                                                             0.059;
                                                                                                                                       DB 5;
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ID ABP61256
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Best Local Similarity
Matches 11; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                                                                                                                                                                Sequence 110 AA;
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PRESTA L G.
LOWMAN H B.
CHEN Y M.
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                                              SASQDISNYLN 11
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SASQDISNYLN
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Fig 10; 47pp;
                                                                                                 Conservative
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/label
89. .9
/label
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24. .34
/label= CDR-L1
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                                                                                                 0;
                                                                                                                     Score 54; DB 5;
Pred. No. 0.059;
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RESULT 37 ABP61244

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RESULT 38
ABP61246
ID ABP61
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AC ABP61
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Matches 11
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                                                                                                                        Sequence 110 AA;
                                                                                                                                                                                                                       New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; H2305.6; light chain;
 ABP61246;
                                                                                                                                                                                                        Example 3; Fig 9; 47pp; English.
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                 ABP61246 standard;
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                                                                                                Local Similarity
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PRESTA L G.
LOWMAN H B.
CHEN Y M.
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                                                                  SASQDISNYLN 11
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                                                         SASQDISNYLN 34
                                                                                         Conservative
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24. .34
/label= CDR-L1
50. .57
/label= CDR-L2
89. .97
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                protein; 110
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                                                                                                100.0%;
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Pred. No. 0.0
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RESULT 39
AAR33257
ID AAR33
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AC AAR33
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DT 25-MA
DT 12-JU
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Best Local S
Matches 11
 25-MAR-2003
12-JUL-1993
                                                                                                                                                                                                                                                                                                                         The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain variable domain of the humanised anti-VEGF antibody of the invention
                                                  AAR33257;
                                                                                                                                                                                                                                                                                            Sequence 110 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                                               AAR33257 standard;
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(WELL/)
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(LOWM/)
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RESTA L G.
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Y M.
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 (revised)
(first entry)
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89. .97
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                                                                               protein;
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Pred. No.
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RESULT 40
AAR53340
ID AAR53
XX AAR53
XX AAR53
XX AAR53
XX AAR641
XX MONOC
KW MONOC
KW CONST
XX CONST
XX CONST
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Best Local S
Matches 11
                                                                                          Monoclonal antibody; Ab; ganglioside GM2; chimera; chimeric antibody; expression vector; heavy; light; chain; hypervariable region; CDR; constant region; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                                                                                                    The sequences given in AAR33256-57 represent rat heavy and light chain variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression vectors. In these humanised antibodies none of the amino acids of the non-human animal Ab variable region have been changed. (Updated on 25-MAR-non-human animal Ab variable region have been changed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Humanised chimeric antibody prodn. against ganglioside {\tt GD3} - for treating cancers, such as melanoma, neuroblastoma, etc.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus rattus
AU9346181-A
                                                                         Mus musculus.
                                                                                                                                               KM641 H chain variable region.
                                                                                                                                                                        18-NOV-1994
                                                                                                                                                                                                                       AAR53340 standard;
                                                                                                                                                                                                                                                                                                                                                                                      Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 6; Page 30-31; 63pp; English.
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                                  Peptide
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                   1. .20
/label= sig_peptide
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                                               Location/Qualifiers
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Pred. No.
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0.071;
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                                                                                                                                                                                                                                                                                                                                                         Length 128;
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Search completed: December 17, 2004, 18:29:03 Job time : 34.4326 secs

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Best Local S
Matches 11
                                                                                                                                   Example 2 describes the construction of the vector pChi641HA1 for chimeric human antibody H chain expression. mRNA from mouse anti-GD3 monoclonal Ab KM641-producing cells was isolated and KM641 H and L chain cDNAs isolated. The base sequences of the Ig variable regions in KM641 H chain cDNA (pKM641HA3) and KM641 L chain cDNA (pKM641LA2) are given in AAQ45438-39. A KM641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKM641HA3 to a vector for chimeric human Ab H chain expression using the synthetic DNAs given in AAQ63439 and AAQ63440
                                                                                                                                                                                                                                                                                                                                               WPI; 1994-12685//
N-PSDB; AAQ45438.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-MAR-1994.
                                                                                                           Sequence 128 AA;
                                                                                                                                                                                                                                                                                                        Humanised antibody specific for ganglioside GM2 - used for producing a cytocidal effect on cancers such as melanoma, neuroblastoma and glioma.
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                                                                   Similarity
SASODISNYLN
                                                       Conservative
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Pred. No. 0.071;
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Maximum DB
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Perfect score:
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length: 2000000000
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Match
      is the number of results predicted by chance to have a ster than or equal to the score of the result being printed, rived by analysis of the total score distribution.
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109.302 Million cell updates/sec
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/cgn2 6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2 6/ptodata/1/iaa/6B_COMB.pep:*
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/cgn2 6/ptodata/1/iaa/BCTUS_COMB.pep:*
/cgn2 6/ptodata/1/iaa/backfiles1.pep:*
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      GenCore version (c) 1993 - 2004
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US-09-225-3228-19
US-09-764-304-19
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US-09-766-658A-4
US-08-649-100-27
US-08-649-100-27
US-08-649-100-27
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US-08-851-362D-38
US-08-851-362D-38
US-08-851-362D-39
US-08-137-117D-37
US-08-649-100-13
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Sequence 94, Appl
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Sequence 10, Appl
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Sequence 4, Appl
Sequence 76, Appl
Sequence 76, Appl
Sequence 77, Appl
Sequence 27, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 28, Appl
Sequence 28, Appl
Sequence 34, Appl
Sequence 37, Appl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: artificial sequence; FEATURE: NAME/KEY: artificial LOCATION: 1-110
; OTHER INFORMATION: humanized antibody light chain variable domain US-09-440-781-94
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NUMBER OF SEQ ID NOS: 99
SEQ ID NO 94
LENGTH: 110
TYPE: PRT

RESULT 1 US-09-440-781-94 ; Sequence 94, Application US/09440781 ; Bequenct No. 6632926 ; Patent No. 6632926 ; APPLICANT: YVONNE Man-yee Chen et al. ; TITLE OF INVENTION: ANTIBODY VARIANTS ; FILE REFERENCE: P1469R1		47	47	47	47	47	47		47	47	47	47	47	47	47	47	47	47	49	
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40781 et al.	ALIGNMENTS	US-08-788-800-11	US-07-934-373C-40	US-07-934-373C-39	US-07-934-373C-24	US-08-458-516-12	US-08-425-763-1	PCT-US95-15716-4	US-08-348-548-4	US-08-458-516-5	-08-437-	å	US-09-254-189-1	US-08-652-558-35	US-08-652-558-2	US-08-458-516-9	US-08-458-516-8	US-08-851-362D-24	US-08-487-761-13	
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GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: HASEGAWA, MAMORU
APPLICANT: KUWANA, YOSHISISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT FILING DATE: 1999-01-05
CURRENT FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR PILING DATE: 1995-03-31
PRIOR PILING DATE: 1995-03-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/408,137
PRIOR APPLICATION NUMBER: US 08/408,137
PRIOR APPLICATION NUMBER: US 08/408,137 US-09-225-322B-10 밁 S Sequence 10, Application US/09225322B Patent No. 6437098 GENERAL INFORMATION: Query Match
Best Local Similarity
Matches 11; Conserv 24 SASQDISNYLN SASQDISNYLN 11 Conservative 100.0%; 34 <u>.</u> Score 54; DB Pred. No. 0.02 Mismatches .02; .4 ٥, Length 110; Indels 0 Gaps

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APPLICANT: HANAI, NOBUO
APPLICANT: HANAI, NOBUO
APPLICANT: HANAI, NOBUO
APPLICANT: HASGAWA, MAMORU
APPLICANT: KUWANA, YOSHIHISA
ITILE OF INVENTION: PROCESS FOR PRODUCING HUWANIZED CHIMERA ANTIBODY
FILE REPERENCE: 249-101
CURRENT FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US/09/225,322B
CURRENT FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-09-17
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 09/297,674
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 19
LENGTH: 128
TYPE: PRT
RESULT 4
US-09-764-304-10
¡Sequence 10, Application US/09764304
¡Patent No. 6495666
¡GENERAL INFORMATION:
¡APPLICANT: SHITARA, KENYA
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PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 10
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OTHER INFORMATION: Description of Artificial Sequence:light chain
OTHER INFORMATION: variable region
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TYPE: PRT
ORGANISM: Artificial Sequence
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Pred. No.
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APPLICANT: HANAI, NOBUO
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
ITITLE OF INVENTION: PROCESS FOR PRODUCING HUWANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 1999-01-05
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1999-05-31
EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER FILING DATE: 1991-09-18
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; OTHER INFORMATION: cDNA KM-641
US-09-764-304-10
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EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US 07/947,674
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER FILING DATE: 1991-09-18
                                                                                                                               EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 10
LENGTH: 128
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. 6495666
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Best Local Similarity
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FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1999-01-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 19
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APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT ORGANISM: Artificial Sequence
                        ORGANISM: Artificial Sequence FEATURE:
                                                                                TYPE: PRT
OTHER INFORMATION: light chain
                                                                                                      LENGTH: 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HASEGAWA, MAMORU
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RESULT 7
US-08-480-434-76
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US-09-386-658A-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: ANTIBODIES SPECIFIC FOR FULLERENES
FILE REFERENCE: 0575/54182
CURRENT APPLICATION NUMBER: US/09/386,658A
CURRENT FILING DATE: 1999-08-31
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 109
TYPES
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Patent No. 6593137
GENERAL INFORMATION:
APPLICANT: Erlanger, Bernard F.
APPLICANT: Chen, Bi-Xing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 76, Application US/08480434 Patent No. 5811248
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                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION Release #1.24
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/480,434
FILING DATE: 07-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Charles C. Ditlow, et al.
TITLE OF INVENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC ANTIGENS,
TITLE OF INVENTION: ANTIBODIES THERETO, AND USES THEREOF
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 854-3660
TELEPAX: (415) 854-3694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Mouse
                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                      STREET: 1155 Aver
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036
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                                                       7606-053
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Pred. No. 0.067;
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Pred. No. 0.024;
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US-08-480-434-76
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                                                                                           US-08-053-451B-76
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Best Local Similarity 100.
                            Query Match
Best Local Similarity
Matches 10; Conserv
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                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/053
FILING DATE: 26-APR-1993
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Halluin, Albert P.
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606
TELECOMMUNICATION INFORMATION:
TELECHONE: 415-854-3660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
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                                                                                                                                                                                      TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
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LENGTH: 11 amino acids
TypE: amino acid
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                   MOLECULE TYPE: D
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MEDIUM TYPE: Floppy disk
                                                                                                         HYPOTHETICAL:
ANTI-SENSE: N
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                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: uni
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                                                                                                                                                  TOPOLOGY:
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2 ASQDISNYLN 11
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                                                                                                                                                                                          11 amino acids
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Ditlow, Charles C.
Calenoff, Emanuel
NVENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC
NVENTION: ANTIGENS, ANTIBODIES THERETO, AND USES THEREOF
                                                                                                                                                                                                                                               415-854-3694
                                     Conservative
                                                                                                                                                  unknown
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                                                                                                                                                               unknown
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                                                  Score 50; pred. No.
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                                                                                                                                                                                                                                                                                          7606-033-999
                                     Mismatches
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0.0076;
                                                  0.0076;
                                                               DB 2;
                                                               Length 11;
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                                     Indels
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; TOPOLOGY: linear; MOLECULE TYPE: peptide US-08-649-100-11
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/649,100
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORWATION:
NAME: MURPHY JR, GERALD M
PROTERENTIAN NUMBER: 03 077
                                                                                                                                                                                                                                          Sequence 27, Application US/08649100 Patent No. 6114507 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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Best Local Similarity
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8050
TELEPAX: (703) 205-8050
INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE:
STATE:
USA
COUNTRY: USA
TTP: 22040-0747
PEADABLE F
                                                                                                                                        APPLICANT: SHIRAKAWA, KAMON
APPLICANT: MATUSUE, TOMOKAZU
APPLICANT: NAGATA, SHIGEKAZU
APPLICANT: CO, MAN SUNG
APPLICANT: VASQUEZ, MAXIMILII
                                                                                                 APPLICANT: NAGATA, SHIGEKAZU
APPLICANT: CO, MAN SUNG
APPLICANT: VASQUEZ, MAXIMILIANO
TITLE OF INVENTION: ANTI-FAS LIGAND ANTIBODY AND ASSAY
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
TYPE: amino acid
STRANDEDNESS: single
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ADDRESSEE: BIRCH, ST
STREET: PO BOX 747
CITY: FALLS CHURCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: NAGATA, SHIGEKAZU
APPLICANT: CO, MAN SUNG
APPLICANT: VASQUEZ, MAXIMILIANO
TITLE OF INVENTION: MATI-FAS LIGAND ANTIBODY AND ASSAY
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
                                                            NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
STREET: PO BOX 747
CITY: FALLS CHURCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 11
                                           ADDRESSEE:
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                                           BIRCH, STEWART, KOLASCH AND BIRCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                               92.6%; Score 50; DB 3;
100.0%; Pred. No. 0.0076;
Ltive 0; Mismatches 0
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Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 1110
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEPAX: (703) 205-8050
INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No. 6309636
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 5,
                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: DO COUTO, FERNANDO J.R.
APPLICANT: CERIANI, ROBERTO L.
APPLICANT: PETERSON, JERRY A.
TITLE OF INVENTION: RECOMBINANT PEI
TITLE OF INVENTION: MC3 ANTI-BA46;
TITLE OF INVENTION: METHODS OF HUM
NUMBER OF SEQUENCES: 81
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
STREET: 755 Page Mill Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY
ZIP: 22040-0747
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                     COUNTRY: USA
ZIF: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ISM PC compatible
COMPUTER: ISM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/649,100
                                                  ATTORNEY/AGENT INFORMATION:
NAME: DYLAN, TYLER
REGISTRATION NUMBER: 37,612
REFERENCE/DOCKET NUMBER: 27
TELECOMMUNICATION INFORMATION:
                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0:
FILING DATE: 14-SEP-1995
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: MURPHY JR, GERALD M
REGISTRATION NUMBER: 28,977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
TELEPHONE: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10;
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                                     (415) 813-5600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RECOMBINANT PEPTIDES DERIVED FROM THE MC3 ANTI-BA46 ANTIBODY, METHODS OF USE THEREOF, AND METHODS OF HUMANIZING ANTIBODY PEPTIDES 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92.6%; Score 50; DB 3;
100.0%; Pred. No. 0.0076;
tive 0; Mismatches 0
                                                                                                                                                                                               US/08/525,539A
                                                                             27633-20001.21
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US-08-851-362D-28
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US-08-851-362D-20
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                                                                   ; ORGANISM: human
US-08-851-362D-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/08/851,362D
CURRENT FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 49
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 20
LENGTH: 76
TYPE: PRT
ORGANISM: human
                                                                                                CURRENT APPLICATION NUMBER: US/08/851,362D
CURRENT FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 49
SOFTWARE: FRSESEQ for Windows Version 4.0
SEQ ID NO 28
LENGTH: 105
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                Sequence 28, Application US/08851362D Patent No. 6235883 GENERAL INFORMATION:
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Patent No. 6235883
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Best Local Similarity
Matches 10; Conserv
Query Match
Best Local Similarity
Matches 10; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -08-851-362D-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal TITLE OF INVENTION: Growth Factor Receptor FILE REFERENCE: Cell 4.20
                                                                                                                                                                                                                TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal TITLE OF INVENTION: Growth Factor Receptor FILE REFERENCE: Cell 4.20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS
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                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Jakobovits, Aya
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 31 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12 ASQDISNYLN 21
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ASQDISNYLN 15
                                                                                                                                                                                                                                                                                                 Jakobovits, Aya
Yang, Xiao-Dong
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Gallo, Michael
Jia, Xiao-Chi
                                                                                                                                                                                                                                                                Gallo, Michael
Jia, Xiao-Chi
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nilarity 100.0%;
Conservative
92.6%; Score 50; DB 3; Length 105; ilarity 100.0%; Pred. No. 0.097; Conservative 0; Mismatches 0; Indels
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Pred. No.
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0.024;
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APPLICANT: Yang, Xiao-Dong
APPLICANT: Gallo, Michael
APPLICANT: Jia, Xiao-Chi
TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal
TITLE OF INVENTION: Growth Factor Receptor
FILE REFERENCE: Cell 4.20
CURRENT APPLICATION NUMBER: US/08/851,362D
CURRENT FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 49
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 34
LENGTH: 105
TYPE: PRT
ORGANISM: human
ORGANISM: human
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                                                                                                                                  ; TYPE: PRT
; ORGANISM: human
US-08-851-362D-38
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                                                                                                                                                                                   SOFTWARE: Fai
SEQ ID NO 38
LENGTH: 105
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 10
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APPLICANT: Jakobov
APPLICANT: Yang, X
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 38, Application US/08851362D Patent No. 6235883 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 34, Application US/08851362D Patent No. 6235883
                                                                Matches
                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                 APPLICANT: Yang, Xiao-Dong
APPLICANT: Gallo, Michael
APPLICANT: Jia, Xiao-Chi
TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal
TITLE OF INVENTION: Growth Factor Receptor
FILE REFERENCE: Cell 4.20
CURRENT APPLICATION NUMBER: US/08/851,362D
CURRENT FILING DATE: 1997-05-05
NUMBER OF SEO.ID NOS: 49
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6 ASQDISNYLN 15
                   2 ASQDISNYLN 11
                                                                10;
6 ASQDISNYLN
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                                                                                                                                                                                                                        FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                               Jakobovits, Aya
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                                                                Conservative
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15
                                                                                92.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92.6%; Score 50; DB 3; 100.0%; Pred. No. 0.097;
                                                                <u>,</u>
                                                                                  Score 50;
Pred. No.
                                                                                  DB 3;
0.097;
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                                                                Indels
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RESULT 16 US-08-480-434-74

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Sequence 74, Application US/08480434 Patent No. 5811248

GENERAL INFORMATION:

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                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 74
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Best Local Similarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.24
CURRENT APPLICATION UNMBER: US/08/480,434
FILING DATE: 07-JUN-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606-053
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 854-3660
TELEPAX: (415) 854-3694
                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/053,451B
                                                                                                                                                                                                                                                                      APPLICANT: Chen, Francis W.
APPLICANT: Ditlow, Charles C.
APPLICANT: Calenoff, Emanuel
TITLE OF INVENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC
TITLE OF INVENTION: ANTIGENS, ANTIBODIES THERETO, AND USES THEREOF
NUMBER OF SEQUENCES: 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: I
HYPOTHETICAL: N
ANTI-SENSE: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Charles TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TUMBER OF SEQUENCES:
                                                                                                                                                                                 STREET: 1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 10036
                                                                                                                                     COUNTRY: USA
ZIP: 10036
                                                                                                                                                                         STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                            74, Application US/08053451B
5. 5955584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25 ASQDISNYLN 34
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1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        107 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Charles C. Ditlow, et al.

VENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC ANTIGENS

VENTION: ANTIBODIES THERETO, AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pennie & Edmonds
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92.6%; Score 50; DB
100.0%; Pred. No. 0.0
cive 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 18
                                                                                                                                                       COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/053,451B
FILING DATE: 26-APR-1993
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Halluin, Albert P.
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606-033-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-854-3660
TELEPHONE: 415-854-3660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1
Patent No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Chen, Francis W.
APPLICANT: Ditlow, Charles C.
APPLICANT: Calenoff, Emanuel
                                                                                      TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
                                TYPE: amino acid
STRANDEDNESS: unl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 415-854-3660
TELEFAX: 415-854-3694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606-033-999
                                                                                                                                             TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                 TOPOLOGY:
                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       176, Application US/08053451B
5. 5955584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25 ASQDISNYLN 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 ASQDISNYLN 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New York
                                                                    107 amino acids
                                                                                                                                                 415-854-3694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92.6%; Score 50; DB 2; Length 107; ilarity 100.0%; Pred. No. 0.099; Conservative 0; Mismatches 0; Indels
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                   unknown
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protein
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                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATHEROSCLEROTIC PLAQUE SPECIFIC
ANTIGENS, ANTIBODIES THERETO, AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    74:
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RESULT 20
US-07-942-245-10
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                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: ISM PC COMPATIBLE
COMPUTER: ISM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/065,059
FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: BUCCA Ph.D., Daniel
REGISTRATION NUMBER: P-42,368
REFERENCE/DOCKET NUMBER: 50356-151
TELECOMOUNICATION INFORMATION:
TELEPHONE: 703-518-5100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                     Query Match
                                                                                   Sequence 10, Appli
Patent No. 5639641
                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. 606884
                                          GENERAL INFORMATION:
APPLICANT: PEDERS
APPLICANT: SEARLE
                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 703-684-1124
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS
LENGTH: 108 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                PATCH 92.6%;
Local Similarity 100.0%;
Local Similarity 100.0%;
Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Alexandria
STATE: Virginia
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                                                                                                                                                                               25
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amino acid
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                                                                                                                                                                               ASODISNYLN
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                                                                                                     Application US/07942245
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAKATA, Motomi
            REES,
ROGUSKA,
GUILD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                        SEARLE,
                                                        PEDERSEN,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Floppy disk
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          Anthony
Michael
                                          Jan T.
Stephen M.J.
                                                                                                                                                                                                                                                                                                                                                                                                           <u>ب</u>
                                                                                                                                                                                                                                                      Score 50; DB 3; Pred. No. 0.1;
                                                                                                                                                                                                                                         Mismatches
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                          CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
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 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 2100 Pens
CITY: Washington
                                                                                                                                                                                                                          STATE: D.C
                                                                                                                                                                                                                                      CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 530
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                                                                                                                                                                                                           COUNTRY:
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TELEX: 6491103
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acid
TYPE: amino acid
TOPOLOGY: linear
                                                                  ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/137,117D
FILING DATE: 20-DEC-1993
CIASTIFICATION. E20
                                                                                                                                                                                                                                                                                                          APPLICANT: SALDANHA, JOSE
TITLE OF INVENTION: RESHAPED HUMAN ANTIBODY TO HUMAN
TITLE OF INVENTION: INTERLEUKIN-6 RECEPTOR
NUMBER OF SEQUENCES: 158
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 3000 K Street, N.W., Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: HP 9000/700 Workstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 293-7060
TELEFAX: (202) 293-7860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
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OPERATING SYSTEM: UNIX
SOFTWARE: In house
APPLICATION NUMBER: WO PCT/JP92/00544 FILING DATE: 24-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Sughrue, Mion, Zinn, Macpeak & Seas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      BENDIG, Mary
JONES, Steven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TSUCHIYA, Masayuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92.6%;
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Pred. No.
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0.1;
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SEQUENCE CHARACTERISTICS:
LENGTH: 127 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-137-117D-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-436-717-37
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Best Local Similarity
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                            APPLICATION UNMBER: US/08/436,717
FILING DATE:
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/137,117
FILING DATE: 20-DEC-1993
APPLICATION NUMBER: WO PCT/JP92/00544
FILING DATE: 24-APR-1992
PRIOR APPLICATION DATA:
APPLICATION UNMBER: JP 4-32084
FILING DATE: 19-FEB-1992
PRIOR APPLICATION DATA:
APPLICATION UNMBER: JP 3-95476
FILING DATE: 19-FEB-1992
PRIOR APPLICATION DATA:
APPLICATION UNMBER: JP 3-95476
FILING DATE: 25-APR-1991
ATTORNEY/AGENT INFORMATION:
NAME: WENNEY BETTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 37:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 25-APR-1991
ATTORNEY/AGENT INFORMATION:
NAME: WEGNER, HAVOIG C.
REGISTRATION NUMBER: 25,258
REFERENCE/DOCKET NUMBER: 5346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                      ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Re-lease #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 3000
CITY: Washington
STATE: D.C.
TGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: SALDANHA, JOSE
TITLE OF INVENTION: RESHAPED HUMAN ANTIBODY TO HUMAN
TITLE OF INVENTION: INTERLEUKIN-6 RECEPTOR
NUMBER OF SEQUENCES: 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: JP 4
FILING DATE: 19-FEB-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
NAME: WEGNER, Harold C. REGISTRATION NUMBER: 25,258
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3000 K Street, N.W., Suite 500
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JONES, Steven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SATO, Koh
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92.6%; Score 50; DB 1;
100.0%; Pred. No. 0.12;
tive 0; Mismatches
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                                                                    ; MOLECULE TYPE: peptide US-08-649-100-17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; MOLECULE TYPE: protein US-08-436-717-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: SHIRAKAWA, KAMON
APPLICANT: NAGTUSUE, TOMOKAZU
APPLICANT: NAGATA, SHIGEKAZU
APPLICANT: NAGATA, SHIGEKAZU
APPLICANT: CO, MAN SUNG
APPLICANT: VASQUEZ, MAXIMILIANO
TITLE OF INVENTION: METHOD USING TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 17,
Patent No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 10; Conserv
   Matches
                   Query Match
Best Local Similarity
                                                                                                                                                                   TELEPHONE: (703) 205-800
TELEFAX: (703) 205-8050
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 904136
INFORMATION FOR SEQ ID NO: 37:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                         FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
ANAME: MURPHY JR, GERALD M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1110
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CIL.
STATE: USA
COUNTRY: USA
TO: 22040-0747
PEADABLE F
F)
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM FO-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 41
CORRESPONDENCE ADDRESS:
ADDRESSE: BIRCH, STEWART, KOLASCH AND BIRCH
STREET: PO BOX 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 53
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
TELEPAX: (202)672-5399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: PO BOX 747
CITY: FALLS CHURCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
TOPOLOGY: linear
                                                                                                                      TYPE: amino acid
STRANDEDNESS: sir
                                                                                                        TOPOLOGY:
                                                                                                                                                        LENGTH: 127 amino acids
                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENGTH:
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 10; Conservative
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                                                                                           single
linear
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100.0%; Pred. No.
92.6%; Score 50;
100.0%; Pred. No.
tive 0; Mismatc
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SING THE ANTI-FAS LIGAND ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
       Mismatches
                   DB 3;
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0.12;
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                                     Length 127
       Indels
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ASQDISNYLN 54

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TOPOLOGY: linear;
MOLECULE TYPE: peptide
US-08-649-100-33
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                                                                                                                                                                                                                                    RESULT 25
US-08-236-520-2
                                                                                                                                                                                                                                                                                                                                                                              Query Match 92.6%;
Best Local Similarity 100.0%;
Matches 10; Conservative
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MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA REPLECTION DATA:
APPLICATION NUMBER: US/08/649,100
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MURPHY JR, GERALD M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1110-160
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                              Sequence 2, Application US/08236520 Patent No. 5591629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (703) 205-800
TELEFAX: (703) 205-8050
INFORMATION FOR SEQ ID NO: :
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ADDRESSEE: BIRCH, ST
STREET: PO BOX 747
                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: VASQUEZ, MAXIMILIANO
TITLE OF INVENTION: ANTI-FAS LIGAND ANTIBODY AND ASSAY
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
                                                                   NUMBER OF SEQUENCES: 11
                                                                                                       TITLE OF INVENTION: MONOCLONAL ANTIBODIES WHICH PROMOTE CENTRAL NERVOUS SYSTEM REMYELINATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
STREET: 1*C
STREET: 1*C
TTTY: Lexington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acids
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ZIP: 22040-0747
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                                                    ADDRESSEE:
                                                                                                                                                                               INFORMATION:
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Massachusetts
                                   Two Militia Drive
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAGATA, SHIGH
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                                                                                                                                                          Rodriguez, Moses
                                               Hamilton, Brook, Smithy & Reynolds, P.C.
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core 50; DB
core 50; No. 0.1
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                                                                                                                                                                                                                                                                                                                                                                                                                Length 127;
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PCT-US95-05262-2
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APPLICANT: Mayo F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 92.6%; Score 50;
Best Local Similarity 100.0%; Pred. No.
Matches 10; Conservative 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 617-861-624
TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                     TELEPHONE: 617-861-624
TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: U.S. 0
PILING DATE: April 29, 199
PILING DATE: April 29, 199
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 27,22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 1 CONTROL OF TATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/05262
FILING DATE:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 27,227
REFERENCE/DOCKET NUMBER: MMV92-01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
SEQUENCE CHARACTERISTICS LENGTH: 131 amino acid TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                REFERENCE/DOCKET NUMBER: MM
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: MONOCLONAL ANTIBODIES WHICH PROMOTE TITLE OF INVENTION: CENTRAL NERVOUS SYSTEM REMYELINATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 131 amino acids
TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Hamilton, BrooksTREET: Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45 ASQDISNYLN 54
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mayo Foundation for Medical Education Research NVENTION: MONOCLONAL ANTIBODIES WHICH PROMOTE
                                           131 amino acids
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                                                                                                                                                                               MMV92-01 PCT
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PCT-US95-05262-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-403-853-18
                                                                                                                            ; MOLECULE TYPE: US-08-403-853-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 92.6%; Sc Best Local Similarity 100.0%; P Matches 10; Conservative 0;
                                                                                                                                                                           IELEX: 904136
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 273 amin
                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 18, Patent No. 58
                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/403,853
FILING DATE: 30-MAY-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/AU93/00491
FILING DATE: 24-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU PL 4973
FILING DATE: 25-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 20007-5109
ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                 FILING DATE: 25-SEP-1992
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPLICANT:
                                                                                                                                                            TYPE: amino acid TOPOLOGY: linear
                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
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                                                               10;
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                            2 ASQDISNYLN 11
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ASQDISNYLN 192
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                                                                                                                                                                                           273 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E: Foley & Lardner
3000 K Street, N.W., Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MALBY, Robyn L.
POWER, Barbara E.
COLMAN, Peter M.
                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KORRT, Alex A.
IRVING, Robert A.
ATWELL, John L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAH, Maria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HUDSON,
                                                                                                                                          protein
                                                      92.6%; sc.
/ 100.0%; Pr
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                                                                            Score 50; DB 2; pred. No. 0.28;
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                                                                                                                                                                                                                                                                                                        16786/189/CHAC
                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 5; Length 131; 0.12;
                                                             0; Indels
                                                                                           Length 273;
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GENERAL INFORMATION:
APPLICANT: Jakobovits, Aya
APPLICANT: Yang, Xiao-Dong
APPLICANT: Gallo, Michael
APPLICANT: Jia, Xiao-Chi
TITLE OF INVENTION: Human Monoclonal Antibodies to I
TITLE OF INVENTION: Growth Factor Receptor
FILE REFERENCE: Cell 4.20
CURRENT APPLICATION NUMBER: US/08/851,362D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 13, Application US/0848776:
Patent No. 6217866
GENERAL INFORMATION:
APPLICANT: Schlessinger, Joseph
APPLICANT: Givol, David
                                                                                                                                               Sequence 24, Application US/08851362D Patent No. 6235883
                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Macintosh
OPERATING SYSTEM: System 7
SOFTWARE: Word 5.0 (Patent
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/
EILING DATE: 07-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (215) 454-3808
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 112 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 32,534
REFERENCE/DOCKET NUMBER: AND TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 454-3817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 29-JUN-1993
ATTORNEY/AGENT INFORMATION:
NAME: Goodman, Rosanne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 424
PRIOR APPLICATION NUMBER: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (215) 454-3808
                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Collegeville
                                                                                                                                                                                                                                                                                                                           Local Similarity
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                                                                                                                                                                                                                                                                           1 SASQDISNYLN 11
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500 Arcola Road, 3C43
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Cheadle, Christopher
South, Victoria J.
                                                                                                                                                                                                                                                                                                           Conservative
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Kris, Richard
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Pred. No. 0
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RESULT 31
US-08-458-516-9
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NUMBER OF SEQ ID NOS: 49
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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                                                                                                                                 Query Match 87.0%;
Best Local Similarity 90.0%;
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/458,516
FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/059,159
FILING DATE: 03-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,223
REFERENCE/DOCKET NUMBER: 11823-37-3
TELECOMMUNICATION INFORMATION:
TET.EDHONE: 415.725.2400
                                                                                                                                                                                                                                                                                                    TELEFAX: 415-326-2422
INFORMATION FOR SEQ ID NO: 8:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 105
TYPE: PRT
ORGANISM: human
                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
COMPUTER: ISM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
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ZIP: 94105
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                TOPOLOGY: linear MOLECULE TYPE: protein
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TITLE OF INVENTION: Hur
TITLE OF INVENTION: GP
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Local Similarity 90.0%;
hes 9; Conservative
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CITY: San Francisco
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TREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                  25 ASQDINNYLN 34
                                                                                    2 ASQDISNYLN 11
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                                                                                                                                                   Score 47; D
Pred. No. 0.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/059
PILING DATE: 03-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,223
                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: LIN, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 415-326-2422
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                         APPLICANT: LIN, AUGUSTINE YEE-THARN
TITLE OF INVENTION: HUMANIZED ANTIBODIES AND USES
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSE: BANNER & WITCOFF
STREET: 75 STATE STREET, 23RD FLOOR
CITY: BOSTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Co, Man S
APPLICANT: Tso, J. Y
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEB: William M. Smith
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette, 1.4 Mb storage
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.1
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CURRENT APPLICATION DATA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity hes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
TOPOLOGY: linear
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LECOMMUNICATION INFORMATION:
TELEPHONE: 415-326-2400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: San Francisco
                                                                                                                          STATE: MASSACHUSETTS
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Pred. No.
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; MOLECULE TYPE: protein US-08-652-558-35
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Patent No. 5861155
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                                                                                                                                                                                                      APPLICATION NUMBER: US/08/652,55.

APPLICATION NUMBER: 1996
PRIOR APPLICATION DATA:
APPLICATION UNMBER: PCT/IB94/003
APPLICATION UNMBER: PCT/IB94/003
APPLICATION NUMBER: 1, 1994
ATTORNEY/AGENT INFORMATION:
NAME: YANKMICH, LEON R.
REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: LIN, AUGUSTINE YEE-THARN
APPLICANT: LIN, AUGUSTINE YEE-THARN
TITLE OF INVENTION: THEREOF
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: BANNER & WITCOFF
ADDRESSEE: BANNER & WITCOFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 617-345-9111 INFORMATION FOR SEQ ID NO: 2:
                                                                                             TELEFAX: 617-345-9111
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette, 1.4 Mb storage
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 95
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-345-9100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: NOVEMBER 21, 1994
ATTORNEY/AGENT INFORMATION:
NAME: YANKWICH, LEON R.
REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08, FILING DATE: JUNE 6, 1996 PRIOR APPLICATION DATA: APPLICATION NUMBER: PCT/II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS
                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 95
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: STREET: STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                             STRANDEDNESS:
                                                              TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
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                                  TOPOLOGY:
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75 STATE STREET, 231
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Pred. No. 0.34;
0; Mismatches
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CURRENT APPLICATION NUMBER: US/09/254,189
CURRENT FILING DATE: 1999-03-02
EARLIER APPLICATION NUMBER: 00/000,000
EARLIER FILING DATE: 1998-11-24
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Lundquist, Tomas
TITLE OF INVENTION: Sequence Listing
Patent No. 6150792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 47, Application US/07934373C Patent No. 5821337
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Best Local Similarity
                             APPLICATION NUMBER: US/07/934,373C
FILING DATE: 21-Aug-1992
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION UNMBER: PCT/US92/05126
FILING DATE: 15-JUN-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Paul J. Carter
APPLICANT: Leonard G. Presta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Description of Artificial Sequence:humanized OTHER INFORMATION: monoclonal antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 107
                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Immunoglobulin Variants
NUMBER OF SEQUENCES: 48
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                  STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
APPLICATION NUMBER: FILING DATE: 14-JUN
                                                                                                                                                                                                                                                                    ZIP: 94080
                                                                                                                                                                                                                                                                                   COUNTRY:
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 14-JUN-1991
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90.9%;
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Pred. No.
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Pred. No. 0.
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RESULT 36
US-08-437-642B-47
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APPLICANT: Paul J
                                                      TELEFAX: 650/95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tent No. 6054297
                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/437,
FILING DATE: 09-May-1995
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acids
TYPE: Amino Acid
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1994
                                    SEQUENCE CHARACTERISTICS
                                                                                  NAME: Lee, Wendy M.
REGISTRATION NUMBER: 40,378
REPERENCE/DOCKST NUMBER: P0709P2C1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1994
                                                                                                                                                                                                          APPLICATION NUMBER: 08/146206
FILING DATE: 17-NOV-1993
PRIOR APPLICATION DATA:
PAPPLICATION NUMBER: PCT/US92/05126
FILING DATE: 15-JUN-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/715272
                                                                                                                                                                                                                                                                                                         FILING UNIT.
PRIOR APPLICATION DATA:
08/146206
                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/934373
FILING DATE: 21-AUG-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Leonard G. Presta
TITLE OF INVENTION: Immunoglobulin Variants
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                         APPLICATION NUMBER: 07/715272
FILING DATE: 14-JUN-1991
ATTORNEY/AGENT INFORMATION:
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Lee, Wendy M. REGISTRATION NUMBER:
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1 DNA Way
outh San Francisco
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                                                        ID NO: 47:
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90.0%;
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Pred. No. 0.34;
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MOLECULE TYPE: protein
US-08-458-516-5
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US-08-458-516-5
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Best Local Similarity
Matches 9; Conserve
                                                                                                                                          RESULT 38
                                                                                                                             US-08-348-548-4
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                                                                                              Sequence 4, Application US/08348548 Patent No. 6258529
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Best Local 9
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                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 03-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,22
                         APPLICANT: Berdoz, J
APPLICANT: Kraehenbu
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: One Market I
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
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                                                                                                                                                                                   45 ASQDINNYLN
                                                                                   INFORMATION:
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                                                                                                                                                                                                                                          Similarity 90. 9; Conservative
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One Market Plaza, Steuart Tower, Suite 2000
Herdoz, Jose
Berdoz, Jose
Kraehenbuhl, Jean Pierre
Kraehenbuhl, Jean Pierre
KVENTION: PCR AMPLIFICATION OF REARRANGED GENOMIC
WENTION: VARIABLE REGIONS OF IMMUNOGLOBULIN GENES
                                                                                                                                                                                                                                                                                                                                                           127 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                      415-326-2422
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90.0%;
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Pred. No. 0.41
1; Mismatches
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PCT-US95-15716-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 4, Application PC/TUS9515716
GENERAL INFORMATION:
APPLICANT: Berdoz, Jose
APPLICANT: Kraehenbuhl, Jean Pierr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 87.0%;
Best Local Similarity 90.0%;
Matches 9; Conservative
                                                                                                                     COUNTRY: USA
COUNTRY: USA
ZIP: 02110-2804

ZIP: 02110-2804

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30B
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/15716
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/348,548

APPLICATION NUMBER: US 08/348,548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEX: 200154
INFORMATION FOR SEQ ID NO: 4:
FILING DATE: 01-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION UMBER: 30,162
REFERENCE/DOCKET NUMBER: 061:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: 30,162
REFERENCE/DOCKST NUMBER: 06132/009001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.30B CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/348,548 FILING DATE: 01-DEC-1994 ATTORNEY/AGENT INFORMATION: NAME: Clark, Paul T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street, Suite 3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Berdoz, Jose
APPLICANT: Kraehenbuhl, Jean Pierre
TITLE OF INVENTION: PCR AMPLIFICATION OF REARRANGED GENOMIC
TITLE OF INVENTION: VARIABLE REGIONS OF IMMUNOGLOBULIN GENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS: no
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
ZIP: 02110-2804
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PR: 30,162
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Pred. No. 0.41;
1; Mismatches
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                                                        Query Match
Best Local Similarity
Matches 9; Conserv
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Patent No. 5641870
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Best Local Similarity
                                                                                                                                                               TELEFAX: 415/952-9881
TELEX: 910/371-7168
TINFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 214 amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Rinderknecht, Ernst H.
APPLICANT: Zapata, Gerardo A.
AITILE OF INVENTION: ANTIBODY PURIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                              FILING DATE:
ATTORNEY AGENT INFORMATION:
ANAME: Lee, Wendy M.
REGISTRATION NUMBER: 00,000
REFERENCE/DOCKET NUMBER: 941
TELECOMPUNICATION INFORMATION:
TELEPHONE: 415/225-1994
                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/425,763
FILING DATE: 20-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: mino acid
STRANDEDNESS: not relevant
TYPGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 127 amino acids
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APPLICATION NUMBER:
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CORRESPONDENCE ADDRESS:
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                                                                                                                                        TOPOLOGY:
                                                                                                                                                       TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Genentech,
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25 ASQDINNYLN 34
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90.0%;
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Pred. No. 0.74;
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Pred. No. 0.41;
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Search completed: December 17, 2004, 18:32:09 Job time : 7.67416 secs

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Maximum Match 100%
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seq length: 2000000000
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54
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185.159 Million cell updates/sec
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/ cgn2_6/ptodata/2/pubpaa/US09NEW_PUBCOMB.pep:*
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_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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US-09-056-160B-4 US-10-234-671-4 US-10-379-392-120 US-10-379-392-123 US-10-379-392-123 US-10-379-392-123 US-10-379-392-131 US-09-056-160B-13 US-09-056-160B-15 US-09-056-160B-15 US-10-374-671-13 US-10-234-671-15 US-10-234-671-15 US-10-723-434-1 US-10-723-434-2	ID
Sequence 4, Appli Sequence 100, App Sequence 111, App Sequence 123, App Sequence 123, App Sequence 131, App Sequence 131, Appl Sequence 13, Appl Sequence 15, Appl Sequence 15, Appl Sequence 15, Appl Sequence 15, Appl Sequence 15, Appl Sequence 2, Appli Sequence 2, Appli	Description

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14	9	9	9	9	15	15	15	15	14	14	14	14	14	13	13	13	9	9	9	16	16	16	16	16	16	16	16	16	16	16	16
US-10-234-671-8	US-09-056-160B-117	US-09-056-160B-107	US-09-056-160B-105	US-09-056-160B-103	US-10-443-134A-127	US-10-443-134A-16	US-10-443-134A-4	US-10-443-134A-2	US-10-234-671-124	US-10-234-671-10	US-10-153-176-16	-10-153-	US-10-153-176-2	US-10-153-159-16	US-10-153-159-4	US-10-153-159-2	US-09-056-160B-126	US-09-056-160B-10	US-09-056-160B-8	US-10-723-434-14	-10-723	US-10-723-434-12	-10-723-434-	US-10-723-434-10	US-10-723-434-9	US-10-723-434-8	US-10-723-434-7	US-10-723-434-6	US-10-723-434-5	US-10-723-434-4	US-10-723-434-3
e 8, 7	117,	107,	105,	103, /	127,	16, 1	4.	e 2,	e 124	e 10,	16	4.	, N	Sequence 16, Appl	е4,	e 2,	126,	10	Sequence 8, Appli	Ļ	13,	12	11	10,	Sequence 9, Appli	8	e 7,	e 6,	e 5	e 4,	Sequence 3, Appli

ALIGNMENTS

US-09-056-160B-4

US-09-056-160B-4

Sequence 4, Application US/09056160B

Patent NO. US2002032315A1

GENERAL INFORMATION:

APPLICANT: Baca, Manuel

APPLICANT: Wells, James A.

APPLICANT: Wells, James A.

APPLICANT: Chen, Yvonne M.

TITLE OF INVENTION: ANTI-VEGF ANTIBODIES

NUMBER OF SEQUENCES: 131

CORRESPONDENCE ADDRESS:

ADDRESSE: Genentech, Inc.

STREET: 1 DNA Way

CITY: South San Francisco

STATE: California

COUNTRY: USA

ZIP: 94080

COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/056,160B

FILING DATE: 06-AUG-1997

ATTORNEY/AGENT INFORMATION:

NAME: Hasak, Janet E.

REGISTRATION NUMBER: 28,616

REFERENCE/DOCKET NUMBER: P1093R2

TELECOMMUNICATION INFORMATION:

TELEPHONE:

650/225-1896

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US-10-234-671-4
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                                                                                                                                   US-10-234-671-4
                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:

NAME: Cui, Steven X.

REGISTRATION NUMBER: 44,637

REFERENCE/DOCKET NUMBER: P1093R2C1

TELECOMMUNICATION INFORMATION:

TELEPHONE: 650/225-8674

TELEPHONE: 650/225-8674

TELEPHONE: 650/225-8674

TELEPHONE: 650/225-8674

TELEPHONE: 650/25-8674

TELEPHONE: 650/25-8674
                                            Matches
                                                            Query Match
Best Local Similarity
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INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENCTH: 11 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/234,671

FILING DATE: 03-58p-2002

CLASSIFICATION: <UNKnown>
PRIOR APPLICATION NUMBER: 09/056160

FILING DATE: 06-APR-1998

APPLICATION NUMBER: 60/126446

FILING DATE: 07-APR-1997

APPLICATION NUMBER: 60/126446

FILING DATE: 07-APR-1997

APPLICATION NUMBER: 60/054856

FILING DATE: 06-AUG-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                      TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                          11;
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1 SASQDISNYLN 11
                                                                                                                                                                           TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
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                                                                                                                                                                                                                          LENGTH: 11 amino acids
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                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Presta, Leonard G.
Lowman, Henry B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wells, James A.
                                       100.0%; Score 54; DB 14; Length 11; 100.0%; Pred. No. 0.012; tive 0; Mismatches 0; Indels
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APPLICANT: Marshall, Shannon Alicia
APPLICANT: Dahiyat, Bassil I.
TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
CURRENT APPLICATION NUMBER: US/10/379,392
CURRENT FILING DATE: 2003-03-03
PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR APPLICATION NUMBER: US 60/364,197
PRIOR APPLICATION NUMBER: US 60/384,197
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US-10-379-392-100
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                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 60/384,197
PRIOR FILING DATE: 2002-05-29
NUMBER OF SEQ ID NOS: 184
SOFTWARE: PATENTIN VERSION 3.2
SEQ ID NO 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loc
Matches
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SEQ ID NO 100
LENGTH: 103
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Publication No. US20040110226A1
                                                           Matches
                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
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                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/379,392
CURRENT FILING DATE: 2003-03-03
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lazar, Gregory Alan
APPLICANT: Desjarlais, John Rudolf
APPLICANT: Marshall, Shannon Alicia
APPLICANT: Dahiyat, Bassil I.
TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
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NUMBER OF SEQ ID NOS: 184
                                                                                                                                                                       LENGTH: 103
TYPE: PRT
ORGANISM: Artificial sequence
PEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Unknown
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1 SASQDISNYLN 11
                                                         11; Conservative
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o. US20040110226A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                       100.0%; Score 54; DB 16; Length 103; 100.0%; Pred. No. 0.12; tive 0; Mismatches 0; Indels
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Pred. No. 0.12;
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SASQDISNYLN 34

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US-10-379-392-123
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APPLICANT: Dahiyat, Bassil I.
TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
CURRENT APPLICATION NUMBER: US/10/379,392
CURRENT FILING DATE: 2003-03-03
PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR APPLICATION NUMBER: US 60/384,197
PRIOR APPLICATION NUMBER: US 60/384,197
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TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
CURRENT APPLICATION NUMBER: US/10/379,392
CURRENT FILING DATE: 2003-03-03
PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR APPLICATION NUMBER: US 60/364,197
PRIOR APPLICATION NUMBER: US 60/384,197
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Sequence 129, Ap
Publication No.
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NUMBER OF SEQ ID NOS: 184
SOFTWARE: PatentIn version 3.2
SEQ ID NO 129
LENGTH: 103
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NUMBER OF SEQ ID NOS: 184
SOFTWARE: PatentIn version 3.2
SEQ ID NO 113
LENGTH: 103
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Publication No.
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APPLICANT: Desjarlais, John Rudolf
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APPLICANT: Desjarlais, John Rudolf
FEATURE:
NAME/KEY: MISC FEATURE
LOCATION: (43)...(43)
OTHER INFORMATION: Xaa at position 43
OTHER INFORMATION: Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
OTHER INFORMATION: Synthetic
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                                                                                                        NAME/KEY: MISC FEATURE LOCATION: (36)...(36) OTHER INFORMATION: Xaa at
                                                                                                                                                                               FEATURE:
OTHER INFORMATION: Synthetic
                                                                                                                                                                                                                                  ORGANISM: Artificial sequence
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o. US20040110226A1
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                                                                                                          position 36
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                           Phe, His, Asp, Thr, Ala, Asn or
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Sequence 131, Application US/10379392
Publication No. US20040110226A1
GENERAL INFORMATION:
APPLICANT: Lazar, Gregory Alan
APPLICANT: Desjarlais, John Rudolf
APPLICANT: Marshall, Shannon Alicia
APPLICANT: Dabiyat, Bassil I.
TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
CURRENT APPLICATION NUMBER: US/10/379.392
CURRENT APPLICATION NUMBER: US/10/379.392
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Best Local S
Matches 11
                                                                                                                                                   Patent No. US20020032
GENERAL INFORMATION:
                                                                                                                                                                                        Sequence 13,
                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 11; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR FILING DATE: 2002-03-01
PRIOR APPLICATION NUMBER: US 60/384,197
PRIOR FILING DATE: 2002-05-29
NUMBER OF SEQ ID NOS: 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
OTHER INFORMATION: Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT ORGANISM: Artificial sequence
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NAME/KEY: MISC_FEATURE
LOCATION: (98)...(98)
OTHER INFORMATION: Xaa at position 98
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 103
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
CORRESPONDENCE ADDRESS:
                                                   APPLICANT: Presta, Leonard G.
APPLICANT: Lowman, Henry B.
APPLICANT: Chen, Yvonne M.
                                                                                            APPLICANT: Baca, Manuel
APPLICANT: Wells, James A.
APPLICANT: Presta, Leonard
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Genentech, Inc.

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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/056,160B
FILING DATE: 06-Apr-1998
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/054,856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: HASAK, Janet E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. US20020032315A1 GENERAL INFORMATION:
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PRICA APPLICATION DATA:
APPLICATION NUMBER: 60/054,856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Hasak, Janet E.
REGISTRATION NUMBER: 28,616
REGISTRATION NUMBER: P1093R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/52-9881
TRECEPAX: 650/52-9881
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INFORMATION FOR SEQ ID NO: 13:
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
COMPONTING SYSTEM: PC-DOS/MS-DOS
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LENGTH: 107 amino acids
TYPE: Amino Acid
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APPLICATION NUMBER: US/09/056,160B
FILING DATE: 06-Apr-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
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ADDRES
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CITY: South San Francisco
STATE: California
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Lowman, Henry B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Baca, Manuel
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TOPOLOGY: Linear SEQUENCE DESCRIPTION: SEQ ID NO: 13: US-10-234-671-13
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                                                                                                                                                                 APPLICATION NUMBER: 09/056160
APPLICATION NUMBER: 60/126446
FILING DATE: 06-APR-1998
APPLICATION NUMBER: 60/126446
FILING DATE: 07-APR-1997
APPLICATION NUMBER: 60/054856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORWATION:
NAME: Cui, Steven X.
REGISTRATION NUMBER: 44,637
REFERENCE/DOCKET NUMBER: 91093R2C1
TELEPHONE: 650/25-8674
TELEPHONE: 650/25-881
INFORMATION FOR SEQ ID NO: 13:
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Query Match
Best Local Similarity
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 15:
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APPLICANT: Baca, Manuel
Malla James
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LENGTH: 107 amino acid
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REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1896
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Lowman, Henry B.
Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

COMPUTER: PC COMPATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WILPATIN (Genentech)

CURRENT APPLICATION DATA:
                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: California
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 100.0%;
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P1093R2
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 Score 54; DB 14; Length 107; Pred. No. 0.12;
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NS-10-234-671-15
US-10-234-671-15
; Sequence 15, Applicatio
; Publication No. US20030
; GENERAL INFORMATION:
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                                                                                RESULT 12
US-10-723-434-1
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                             Sequence 1, Application US/10723434
Publication No. US20040133357A1
GENERAL INFORMATION:
                                                                                                                                                                                                                  Query Match 100
Best Local Similarity 100
Matches 11; Conservative
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APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/10/234,671
FILING DATE: 03-Sep-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/056160
FILING DATE: 06-APR-1998
APPLICATION NUMBER: 60/126446
FILING DATE: 07-APR-1997
APPLICATION NUMBER: 60/054856
FILING DATE: 06-AUG-1997
APPLICATION NUMBER: 60/054856
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Cui, Steven X.
REGIGFRATION NUMBER: 44,637
REFERENCE/DOCKET NUMBER: P1093R2C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wells, James A.
Presta, Leonard G.
Lowman, Henry B.
Chen, Yoonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
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TELEPHONE: 650/225-8674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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No. US20030190317A1
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US-10-723-434-2
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US-10-723-434-1
                                                                                                                                   US-10-723-434-2
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Best Local S
Matches 11
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                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                   FEATURE:
OTHER INFORMATION:
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 24 SASQDISNYLN 34
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Heieh, Mark
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Sequence 2, Application US/10723434

Publication No. US20040133357A1

GENERAL INFORMATION:
APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
APPLICANT: Haieh, Mark
APPLICANT: Haieh, Mark
APPLICANT: Haieh, Mark
APPLICANT: Li, Yan
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501

CURRENT APPLICATION NUMBER: US/10/723,434

CURRENT FILING DATE: 2003-11-26

PRIOR APPLICATION NUMBER: US 60/284,407

PRIOR APPLICATION NUMBER: US 60/284,407

PRIOR APPLICATION NUMBER: US 10/125,687

PRIOR APPLICATION NUMBER: US 10/153,176

PRIOR RETLING DATE: 2002-04-17

PRIOR APPLICATION NUMBER: US 10/153,176

PRIOR APPLICATION NUMBER: US 10/153,176

PRIOR PILING DATE: 2002-05-20

PRIOR APPLICATION NUMBER: US 10/443,134

PRIOR APPLICATION NUMBER: US 10/443,134

PRIOR APPLICATION NUMBER: US 10/443,134
                                                                   Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 11; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
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NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
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PRIOR FILING DATE: 2001-04-17
PRIOR PELICATION NUMBER: US 10/125,687
PRIOR PELING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR APPLICATION NUMBER: US 10/443,134
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
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ORGANISM: Artificial Sequence
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1 SASQDISNYLN 11
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11; Conservative
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100.0%; Pred. No. 0.12;
ative 0; Mismatches 0; Indels
                                                                      <u>.</u>
                                                                                          Score 54; DB 1:
Pred. No. 0.12;
                                                                      Mismatches
                                                                                                                         DB 16;
                                                                                                                         Length 107;
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APPLICANT: Mang, Kevin C.
APPLICANT: Hsieh, Mark
APPLICANT: Hsieh, Mark
APPLICANT: Li, Yan
APPLICATION NUMBER: US/10/723,434
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
PRIOR FILING DATE: 2003-05-20
PRIOR FILING DATE: 2003-05-20
PRIOR FILING DATE: 2003-05-20
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US-10-723-434-4
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SEQ ID NO 3
LENGTH: 107
TYPE: PRT
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Publication No. USZ0040133357A1
GENERAL INFORMATION:
                                                                                                                     SEQ ID NO 4
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APPLICANT: Zhong, Pingy
APPLICANT: Luo, Peizhi
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                                                                                                                               APPLICANT: LI. YAN
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 2650-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR FILING DATE: 2002-04-17
PRIOR FILING DATE: 2002-05-20
PRIOR FILING DATE: 2002-05-20
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
PRIOR FILING DATE: 203-05-20
NUMBER OF SEQ ID NOS: 156
PRIOR FILING DATE: 203-05-20
NUMBER OF SEQ ID NOS: 156
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                                                                      LENGTH: 107
TYPE: PRT
OTHER INFORMATION: VL
                                            ORGANISM: Artificial Sequence
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No. US20040133357A1
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Hsieh, Mark
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PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR PILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
SOFTWARE: Patentin version 3.1
SEQ ID NO 5
LENGTH: 107
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; OTHER INFORMATION: VL
US-10-723-434-5
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US-10-723-434-5
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US-10-723-434-6
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APPLICANT: Zhong, Pingy
APPLICANT: Luo, Peizhi
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Publication No. US20040133357A1
GENERAL INFORMATION:
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Best Local Similarity
                                                                                      APPLICANT: Li, Yan
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR FILING DATE: 2002-04-17
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CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
                                                                                                                                                                                                                                         APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
APPLICANT: Wang, Kevin C.
APPLICANT: Hsieh, Mark
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                                                         PRIOR APPLICATION NUMBER: US 10/125,687 PRIOR FILING DATE: 2002-04-17
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ORGANISM: Artificial Sequence
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APPLICATION NUMBER: US 10/153,176 FILING DATE: 2002-05-20 APPLICATION NUMBER: US 10/443,134
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Hsieh, Mark
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Pred. No. 0
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Sequence 8, Application US/10723434
Publication No. US20040133357A1
GENERAL INFORMATION:
APPLICANT: Luo, Peizhi
APPLICANT: Haieh, Mark
APPLICANT: Hsieh, Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: PRT
, ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: VL
US-10-723-434-7
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US-10-723-434-7
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US-10-723-434-8
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NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
SEQ ID NO 7
LENGTH: 107
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Publication No. US20040133357A1
GENERAL INFORMATION:
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NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
SEQ ID NO 6
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Best Local Similarity
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-10-723-434-6
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CURRENT ADDILICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR PILING DATE: 2001-04-17
PRIOR PILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR PILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/133,176
PRIOR APPLICATION NUMBER: US 10/143,134
DEFIOR EFILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/443,134
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APPLICANT: Luo, Peizhi
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
APPLICANT: Li, Yan
IITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
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Hsieh, Mark
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100.0%; Pred. No. 0.12;
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US-10-723-434-9
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US-10-723-434-9
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
                                                                                Query Match
Best Local S
Matches 11
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 9
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LENGTH: 107
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Best Local Similarity
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
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PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/143,134
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CURRENT FILING DATE: 2003-11-26
                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE: 2003-05-20
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APPLICANT: Luo, Peizhi
APPLICANT: Wang, Kevin C.
APPLICANT: Hsieh, Mark
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                                                                                                                                                                                                           TYPE: PRT ORGANISM: Artificial Sequence FEATURE:
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                                                                                                                                                                                                                                                                          LENGTH: 107
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                                         1 SASQDISNYLN 11
                                                                                  Similarity 100
11; Conservative
SASQDISNYLN 34
                                                                                100.0%; Score 54; DB 1.
100.0%; Pred. No. 0.12;
ative 0; Mismatches
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100.0%; Pred. No. 0.12;
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RESULT 21 US-10-723-434-10

; Sequence 10, Application US/10723434

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RESULT 22
US-10-723-434-11
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                                                                                                ; OTHER INFORMATION: VL
US-10-723-434-11
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US-10-723-434-10
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NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
SEQ ID NO 11
Query Match 100.0%; Score 54; DI Best Local Similarity 100.0%; Pred. No. 0.: Matches 11; Conservative 0; Mismatches
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Best Local
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CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR PILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR FILE REFERENCE: 26050-709.501
CURRENT PELLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR PILING DATE: 2001-04-17
PRIOR PILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR PILING DATE: 2002-04-17
PRIOR PILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/13,176
PRIOR APPLICATION NUMBER: US 10/13,176
PRIOR APPLICATION NUMBER: US 10/443,134
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APPLICANT: Wang, Kevin C.
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APPLICANT: Luo, Peizhi
                                                                                                                                            ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                           LENGTH: 107
TYPE: PRT
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Hsieh, Mark
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Pred. No.
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                        0.12;
                                            DB 16; Length 107;
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APPLICANT: Li, Yan
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR PILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR PILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR PILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
SOFTWARE: Patentin version 3.1
SEQ ID NO 13
LENGTH: 107
                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 13, Application US/10723434; Publication No. US20040133357A1; GENERAL INFORMATION: APPLICANT: Zhong, Pingyu; APPLICANT: Luo, Peizhi; APPLICANT: Wang, Kevin C.; APPLICANT: Hsieh, Mark
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US-10-723-434-12
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
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PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
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Hsieh, Mark
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No. US20040133357A1
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Pred. No. 0.12;
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) OTHER INFORMATION: VL
US-10-723-434-14
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; OTHER INFORMATION: VL
US-10-723-434-13
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 14
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CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR PILING DATE: 2002-04-17
PRIOR PILING DATE: 2003-05-20
PRIOR PILING DATE: 2003-05-20
PRIOR PILING DATE: 2003-05-20
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APPLICANT:
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                                                                             CORRESPONDENCE ADDRESS
                                                                                                TITLE OF INVENTION: ANTI-VEGF ANTIBODIES TUMBER OF SEQUENCES: 131
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                                                        ADDRESSEE:
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South San For California
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Hsieh, Mark
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No. US20040133357A1
                E: Genentech, Inc
1 DNA Way
outh San Francisco
                                                                                                                                 Presta, Leonard G.
Lowman, Henry B.
Chen, Yvonne M.
                                                                                                                                                                                                Wells, James A.
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Best Local (
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/056,160B
FILING DATE: 06-Apr-1998
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION NUMBER: 60/054,856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Hasak, Janet E.
REGISTRATION NUMBER: 28,616
REGISTRATION NUMBER: 28,616
REGERENCE/DOCKET NUMBER: P1993R2
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/09/056,16
FILING DATE: 06-Apr 1998
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/054,856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: HASSK, Janet E.
REGISTRATION NUMBER: 28,616
REFERENCE/DOCKET NUMBER: P1093R2
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                   STREET: 1 DNA Way
CITY: South San F
STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                               ZIP: 94080
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Lowman, Henry B.
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                                                                                                                                                                                                                                 APPLICATION NUMBER: US/09/056,160B
PILING DATE: 06-Apr-1998
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/054,856
PILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Hasak, Janet E.
REGISTRATION NUMBER: 28,616
REFERENCE/DOCKET NUMBER: P1093R2
TELECOMMUNICATION INFORMATION:
TELEPAX: 650/922-1896
TELEPAX: 650/922-9881
                                                                                                                                                                    TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 108 amino acidd
TYPE: Amino Acid
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Lowman, Henry B.
APPLICANT: Chen, Yvonne M.
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Local Similarity 100.0%; Pred. No. 0.12;
mes 11; Conservative 0; Mismatches
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                                                                                Local
                                                                                                                                                LENGTH: 108 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: South San Francisco
STATE: California
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                                                                                Similarity
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                                                                  Conservative
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                                                                100.0%; Score 54; Di
100.0%; Pred. No. 0.:
tive 0; Mismatches
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RESULT 29

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US-10-153-159-4
                                                                                                                                                                                                                                                                        APPLICANT: Zhong, Pingyu
APPLICANT: Zhong, Caili
TITLE OF INVENTION: STRICTURE-BASED SELECTION AND AFFINITY MATURATION OF ANTIBODY LIBITITLE OF INVENTION: SILICO
FILE REFERENCE: 26050-704
CURRENT APPLICATION NUMBER: US/10/153,159
CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2002-04-17
PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/10153159 Publication No. US20020177170A1 GENERAL INFORMATION:
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LENGTH: 108
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                                                                               Matches
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Best Local
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Best Local Similarity
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FILE REFERENCE: 26050-704
CURRENT APPLICATION NUMBER: US/10/153,159
CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR PRIOR DATE: 2002-04-17
PRIOR PILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
NUMBER OF SEQ ID NOS: 125
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APPLICANT: Hsieh, Mark
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APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
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                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence FEATURE:
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                                                                                                                                                                                                                                                            LENGTH: 108
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24 SASQDISNYLN 34
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                         1 SASQDISNYLN 11
                                                                                                  Similarity
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                                                                                           100.0%;
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                                                                             Score 54; DB 1:
Pred. No. 0.12;
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24 SASQDISNYLN 34

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RESULT 32
US-10-153-176-2
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                                                                                                                   ; OTHER INFORMATION: VL of parental anti-VEGF antibody
US-10-153-176-2
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                                                                                                                                                                                                         APPLICANT: Liu, Shengiiang
TITLE OF INVENTION: GENERATION AND AFFINITY MATURATION OF ANTIBODY LIBRARY IN SILICO
FILE REFERENCE: 26050-701
CURRENT APPLICATION NUMBER: US/10/153,176
CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
SOFTWARE: Patentin version 3.1
SEQ ID NO 2
LENGTH: 108
TYPE: NET
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Best Local
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SEQ ID NO 16
LENGTH: 108
TYPE: PRT
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Sequence 16, Application US/10153159
Publication No. US20020177170A1
                                                         Query Match
Best Local Similarity
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Publication No. US20030022240A1
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PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/153,159
CURRENT FILING DATE: 2002-05-20
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                                                                                                                                                        ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: VL of AM2-ccFv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial Sequence FEATURE:
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1 SASQDISNYLN 11
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Zhong, Pingyu
Wang, Caili
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Zhong, Pingyu
Wang, Caili
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                                                         100.0%; Score 54; DB 14; Length 108; 100.0%; Pred. No. 0.12;
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                                       Mismatches
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PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
SOFTWARE: PatentIn version 3.1
SEQ ID NO 16
LENGTH: 108
TYPE: PRT
ORGANISM: Artificial Sequence
                                        ; FEATURE:
; OTHER INFORMATION: VL of AM2-ccFv
US-10-153-176-16
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APPLICANT: Hsieh, Mark
APPLICANT: Zhong, Pingyu.
"BDIJICANT: Wang, Caili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 16, Appropriate Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
Query Match
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/10/153,176
CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Heieh, Mark
APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
APPLICANT: Cao, Yicheng
                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/10/153,176
CURRENT FILING DATE: 2002-05-20
                                                                                                                                                                                                                                                                                                                                APPLICANT: Li, Shengfeng
APPLICANT: Liu, Shengfiang
APPLICANT: Liu, Shengfiang
TITLE OF INVENTION: GENERATION AND AFFINITY MATURATION OF ANTIBODY LIBRARY IN SILICO
FILE REFERENCE: 26050-701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Luo, Peter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/284,407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILE REFERENCE: 26050-701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
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PPLICANT: Liu, Shengjiang
ITLE OF INVENTION: GENERATION AND AFFINITY MATURATION OF ANTIBODY LIBRARY IN SILICO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               108
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No. US20030022240A1
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  100.0%; Score 54;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 anti-VEGF antibody
    DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 14; Length 108;
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  Length 108;
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; Sequence 124, Application US/10; Publication No. US20030190317A1; GENERAL INFORMATION: Baca, Manuel
                                                                                                        RESULT 36
US-10-234-671-124
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US-10-234-671-10
                                                                                                                                                                                                                                                                                                                                                                                              ; SEQUENCE DESCRIPTION: SEQ ID NO: 10: US-10-234-671-10
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Publication No. US20030190317A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                               Query Match
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INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinDatin (Genentech)

CURRENT APPLICATION NUMBER: US/10/234,671

PILING DATE: 03-Sep-2002

CLASSIFICATION NUMBER: US/10/234,671

PILING DATE: 06-APR-1998

APPLICATION NUMBER: 09/056160

FILING DATE: 06-APR-1997

APPLICATION NUMBER: 60/126446

FILING DATE: 07-APR-1997

APPLICATION NUMBER: 60/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 60/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 40/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 80/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 91/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 91/054856
                                                                                                                                                                                                                                                                                                                      Match 100.0%; Score 54; DB 14; Length 108; Local Similarity 100.0%; Pred. No. 0.12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA WAY
CITY: South San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Baca, Manuel
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                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 108 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: California
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                                                                            Application US/10234671
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Lowman, Henry B.
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                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/10443134A Publication No. US20040010376A1 GENERAL INFORMATION:
APPLICANT: Wang, Caili
APPLICANT: Cao, Yicheng
APPLICANT: Liu, Shengjiang
APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND SELECTION OF PROTEIN LIBRARY IN SILICO
FILE REFERENCE: 26050-709
CURRENT APPLICATION NUMBER: US/10/443,134A
CURRENT FILING DATE: 2003-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
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                                                                                                                                                                                                                                                               APPLICANT: Luo, Perzua
APPLICANT: Hsieh, Mark
APPLICANT: zhong, Pingyu
APPLICANT: wang, Caili
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TELEPAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 124:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 09/056160
FILING DATE: 06-APR-1998
APPLICATION NUMBER: 60/126446
FILING DATE: 07-APR-1997
APPLICATION NUMBER: 60/054856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Cui, Steven X.
REGISTRATION NUMBER: 44,637
REFERENCE/DOCKET NUMBER: P1993R2C1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
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APPLICATION NUMBER: US/10/234,671
FILING DATE: 03-Sep-2002
CLASSIFICATION: <URKnown>
PRIOR APPLICATION DATA:
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MEDIUM TYPE: 3.5 inch, 1.44 Mb:
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
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ADDRESSEE: Genentech, Inc.
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TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE DESCRIPTION: SEQ ID NO: 124:
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TYPE: Amino Acid
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Lowman, Henry B.
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Presta, Leonard
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; PEATURE:
; OTHER INFORMATION: VL of matured anti-VEGF antibody
US-10-443-134A-4
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                                                                                                                               US-10-443-134A-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR PELICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR APPLICATION DATE: 2002-05-20
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Best Local Similarity 100.
11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 131
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                     Matches
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                                                                                         Sequence 16, Ap
Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION
                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: 26050-709
CURRENT APPLICATION NUMBER: US/10/443,134A
CURRENT FILING DATE: 2003-05-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR FILING DATE: 2002-05-20
NUMBER OF SEQ ID NOS: 131
APPLICANT: Luo, Peizhi
APPLICANT: Hsieh, Mark
APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Cao, Yicheng
APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND SELECTION OF PROTEIN LIBRARY IN SILICO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
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TYPE: PRT
ORGANISM: Artificial Sequence
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Wang, Caili
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PRIOR FILING DATE: 2002-05-20
NUMBER OF SEQ ID NOS: 131
SOFTWARE: Patentin version 3.1
SEQ ID NO 127
LENGTH: 108
TYPE: PRT
ORGANISM: Artificial Sequence
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                                                                                                                                     ; FEATURE: ; OTHER INFORMATION: VL of antibody X64, X65, D36, D40 and US-10-443-134A-127
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PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR PRIOR PRILING DATE: 2001-04-17
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Best Local Similarity
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PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR APPLICATION NUMBER: US 10/153,159
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CURRENT FILING DATE: 2003-05-20
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APPLICANT: Cao, Yicheng
APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND SELECTION
FILE REFERENCE: 26050-709
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TITLE OF INVENTION: GENERATION AND SELECTION OF PROTEIN LIBRARY IN SILICO
FILE REFERENCE: 26050-709
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TYPE: PRT
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Local Similarity 100.0%; Pred. No.
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Wang, Caili
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RESULT 2 152592 19 kappa chain V region - human (fragment) C;Species: Homo sapiens (man) C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 21-Jan-2000 C;Accession: 152592 R;Wagner, S.D.; Martinelli, V.; Luzzatto, L. Blood 83, 3647-3653, 1994 A;Title: Similar patterns of V kappa gene usage but different degrees of somatic mm A;Reference number: 152592; MUID:94264318; PMID:8204889 A;Accession: 152592 A;Accession: 152592 A;Accession: 152592 A;Accession: 152592 A;Molecule type: DNA A;Residues: 1-87 <res> A;Cross-references: GB:S71057; NID:g547053; PIDN:AAB30971.1; PID:g547054 C;Genetics: A;Gene: IgKV C;Superfamily: immunoglobulin V region; immunoglobulin homology F;9-83/Domain: immunoglobulin homology <imm></imm></res>	RESULT 1 S42255 Ig kappa chain V region (018) - human C;Species: Homo sapiens (man) C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 17-Mar-1999 C;Accession: \$42265 C;Catession: \$42265 R;Scott, M.G.; Crimmins, D.L.; McCourt, D.W.; Chung, G.; Schaeble, K.F.; Thiebe, R.; J. Immunol. 147, 4007-4013, 1991 A;Title: Clonal characterization of the human IgG antibody repertoire to Haemophilus A;Reference number: \$42263; MUID:92043792; PMID:1940382 A;Reference number: \$42263; MUID:92043792; PMID:1940382 A;Residues: 1-62 <sco> A;Cross-references: EMBL:M64856 C;Genetics: A;Introns: 19/1 C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin Ouery Match Best Local Similarity 100.0%; Pred. No. 0.031; Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 2 ASQDISNYLN 11 Db 25 ASQDISNYLN 34</sco>	30 47 87.0 111 2 A38740 Ig kappa chain V r 31 47 87.0 111 2 C38740 Ig kappa chain V r 32 47 87.0 112 2 C38740 Ig kappa chain V r 33 47 87.0 122 2 A29380 Ig kappa chain V r 34 87.0 126 2 A34904 Ig kappa chain V r 35 47 87.0 127 2 S52447 Ig kappa chain V r 36 46 85.2 108 2 S11124 Ig kappa chain V r 37 45 83.3 107 2 S32188 Ig kappa chain V r 38 45 83.3 109 2 PH0888 Ig kappa chain V r 41 42 83.3 112 138740 Ig kappa chain V r 42 44 81.5 108 2 S19674 Ig kappa chain V r 43 44 81.5 108 2 S19674 Ig kappa chain V r 44 81.5 108 2 S19674 Ig kappa chain V r 45 46 81.5 109 2 S31981 Ig kappa chain V r 46 81.5 109 2 S31981 Ig kappa chain V r 47 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r
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Query Match Best Local Sim Matches 10;

Similarity

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DB 2; 0.043;

Length 87; Indels

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Gaps

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Ig kappa chain V region (ASWU1) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 21-Jan-2000
C;Accession: S38564
R;Monestier, M.; Losman, L.J.; Novick, K.E.; Aris, J.P.
submitted to the EMBL Data Library, September 1993
A;Bescription: Molecular analysis of mercury-induced anti-nucleolar antibodies in H-2s |
A;Reference number: S38559
A;Accession: S38564
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A;Title: V-Kappa gene segments rearranged in Chronic lymphocytic leukemia are distribute
A;Reference number: S34076; MUID:93170387; PMID:8436174
A;Accession: S34087
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-88 <WAGS-
A;Cross-references: EMBL:X67171
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;9-83/Domain: immunoglobulin homology <IMM>
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C;Accession: S34008
R;Wagner, S.D.; Luzzatto, L.
Eur. J. Immunol. 23, 391-397, 1993
A;Title: V-kappa gene segments rearranged in chronic lymphocytic leukemia are distribute A;Reference number: S34076; MUID:93170387; PMID:8436174
A;Accession: S34088
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-88 <WAG-PARTY | Laboratory | Labo
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;9-83/Domain: immunoglobulin homology <IMM>
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0.043;
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ASQDISNYLN

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Ig kappa chain (clone KL2.21) - mouse C; Species: Mus musculus (house mouse) C; Date: 14-Feb-1997 #sequence_revision 13-Mar C; Accession: S69901
R; Wysocki, L.J.; Creadon, G.; Lehmann, K.R.; Immunology 75, 116-121, 1992
A; Title: B-cell proliferation initiated by Ia A; Reference number: S69900; MUID:92165291; PM A; Accession: S69901
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A;Reference number: PH0862; MUID:92078875; PMID:1660528
A;Reference number: PH0862; MUID:92078875; PMID:1660528
A;Residues: 1-95 <MAN>
A;Residues: 1-95 <MAN>
C;Comment: This antibody is produced by Epstein-Barr virus-transformed B cell that bears C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Reywords: heterotetramer; immunoglobulin F;1-23/Region: framework 1
F;16-29/Domain: immunoglobulin homology <IMM>
F;16-29/Domain: immunoglobulin homology <IMM>
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S69901
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C;Species: Homo sapiens (man)
C;Date: 09-Oct-1992 #sequence_revision 09-Oct-1992 #text_change 21-Jan-2000
C;Accession: PH0862
C;Accession: PH0862
R;Manheimer-Lory, A.; Katz, J.B.; Pillinger, M.; Ghossein, C.; Smith, A.; D:
J. Exp. Med. 174, 1639-1652, 1991
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A;Molecule type: mRNA
A;Residues: 1-93 <MON>
A;Residues: 1-93 <MON>
A;Cross-references: EMBL:X75105; NID:g414153; PIDN:CAA52996.1; PID:g414154
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
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PH0862
                                                                          A;Cross-references: EMBL:X55042; NID:g511025; PIDN:CAA38882.1; C;Superfamily: immunoglobulin V region; immunoglobulin homology F;16-90/Domain: immunoglobulin homology <IMM>
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A; Residues: 1-107 < WYS>
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complementarity-determining 1
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100.0%;
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100.0%; Pred. No.
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                    Score 50;
Pred. No.
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PMID:1537587
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0.046;
                    DB 2;
0.053;
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C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 19-May-1994 #sequence_revision 19-May-1994 #text_change 21-Jan-2000
C;Accession: D48677
R;Tassignon, J; Brait, M.; Jamila, I.; Urbain, J; Gottlieb, P.; Brown, A.; Hasemann, Proc. Natl. Acad. Sci. U.S.A. 90, 9508-9512, 1993
Proc. Natl. Acad. Sci. U.S.A. 90, 9508-9512, 1993
A;Title: Molecular characterization of monoclonal CRI-A-positive anti-arsonate antibodi A;Reference number: A48677; MUID:94022404; PMID:8415731
A;Accession: D48677
A;Accession: D48677
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A; Residues: 1-107 <mEs>
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
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A;Title: Identity of the V-kappa-10-Ars-A gene segments of the A/J and BALB/c strains. A;Reference number: A94179; MUID:87317629; PMID:3114744
A;Accession: A28044
                         C;Accession: B28044; Rathbun, G.; Nisonoff, A.; Capra, J.D. R;Meek, K.; Sanz, I.; Rathbun, G.; Nisonoff, A.; Capra, J.D. Proc. Natl. Acad. Sci. U.S.A. 84, 6244-6248, 1987
A;Title: Identity of the V-kappa-10-Ars-A gene segments of the A;Reference number: A94179; MUID:87317629; PMID:3114744
A;Recession: B28044
A;Molecule type: mRNA
A;Residues: 1-107 <mEE>
C;Superfamily: immunoglobulin tomology
C;Keywords: heterotetramer; immunoglobulin
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C;Species: Mus musculus (house mouse)
C;Date: 19-May-1989 #sequence_revision 19-May-1989 #text_change 21-Jan-2000
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C;Species: Mus musculus (house mouse)
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Superfamily: immunoglobulin V region; immunoglobulin homology; Keywords: heterotetramer; immunoglobulin; 16-90/Domain: immunoglobulin homology <IMM>
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;Species: Mus musculus (house mouse)
;Date: 19-May-1989 #sequence_revision 19-May-1989 #text_change 21-Jan-2000
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Pred. No. 0.053;
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                                                  Query Match
Best Local
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A,Status: nucleic acid sequence not shown
A,Molecule type: mRNA
A,Residues: 1-107 <PUC>
A,Experimental source: strain lupus-prone MRL-lpr/lpr mouse
C,Superfamily: immunoglobulin V region; immunoglobulin homology
C,Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
F;24-34/Region: complementarity-determining 1
F;50-56/Region: complementarity-determining 2
F,89-97/Region: complementarity-determining 3
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S69906
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A;Experimental source: MLR-lpr/lpr
A;Note: sequence extracted from NCBI backbone (NCBIP:60876)
R;Puccetti, A.; Koizumi, T.; Migliorini, P.; Andre-Schwartz, J.; Barrett, K.J.; Schwartz, J. Exp. Med. 171, 1919-1930, 1990
J. Exp. Med. 171, 1919-1930, 1990
A;Title: An immunoglobulin light chain from a lupus-prone mouse induces autoantibodies in A;Reference number: PL0220; MUID:90278348; PMID:1693654
A;Accession: PL0220
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C;Date: 19-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 21-Jan-2000 C;Accession: B49026; PL0220
                                                                                                A;Cross-references: EMBL:X55047; NID:g511035; PIDN:CAA38887.1; PID:g511036
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;16-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                             A;Reference number: S69900;
A;Accession: S69906
                                                                                                                                                                                                                                                                                   R;Wysocki, L.J.; Creadon, G.; Lehmann, K.R.; Cambier, J.C. Immunology 75, 116-121, 1992
A;Title: B-cell proliferation initiated by Ia cross-linking A;Reference number: S69900; MUID:92165291; PMID:1537587
                                                                                                                                                                                                                                                                                                                                                                                            Ig kappa chain (clone KL4A1) - mouse
(;Species: Mus musculus (house mouse)
(;Species: Mus musculus (house mouse)
C;Date: 14-Feb-197 #sequence_revision 13-Mar-1997 #text_change
C;Accession: S69906
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                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-107 < WYS>
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ilarity 100.0%;
Conservative
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92.6%; Score 50; DB
100.0%; Pred. No. 0.
live 0; Mismatches
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Pred. No. 0.053;
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A;Cross-references: UNIRROT: D01644
A;Cross-references: UNIRROT: D01644
A;Experimental source: strain A/J
A;Note: hp 93G7 differs in having 93-Met; HP 123B6 differs in having 7-Ser, 92-Tyr, and Arg, 84-Ser, and 93-Ala
C;Comment: The sequence shown is HP R16.7.
C;Complex: An immunoglobulin heterotetramer subunit consists of two identical light (kag hain disulfide bonds. In some cases, such as IgA and IgM, the subunits associate into la C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer
F;16-90/Domain: immunoglobulin homology <IMM>
F;16-90/Domain: immunoglobulin homology <IMM>
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                                                                                                          RESULT 15
C26405
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Ig kappa chain V region (3D10) - mouse C;Species: Mus musculus (house mouse) C;Date: 30-Jun-1988 #sequence_revision C;Accession: C26405
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A; Residues: 1-108 < WYS>
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                          #sequence_revision 30-Jun-1988 #text_change 21-Jan-2000
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100.0%; Pr
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Pred. No. 0.053;
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A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-108 <FIS>
A;Cross-references: EMBL:X75854; NID:g429109; PID:g429110
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
E;16-90/Domain: immunoglobulin homology <IMM>
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A;Accession: C26405
A;Molecule type: prottin
A;Residues: 1-108 <SMI>
A;Experimental source: strain A/J
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; of monology <IVM>
F;16-90/Domain: immunoglobulin homology <IVM>
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C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 06-Feb-1995 #sequence_revision 06-Feb-1995 #text_change 2
C;Accession: S38862
R;Fischer, R.; Voss, A.; Hunziker, W.; Stierhof, Y.D.; Kreuzaler, submitted to the EMBL Data Library, August 1993
A;Description: Production and cloning of TMV-specific monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
S38862
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A;Title: B-cell proliferation initiated by Ia cross-linkin A;Reference number: $65900; MUID:92165291; PMID:1537587
A;Accession: $65902
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S69902
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Biochemistry 26, 604-612, 1987
A;Title: Complete amino acid s
                                                                                 A;Cross-references: EMBL:X55043; NID:g511027; PIDN:CAA38883.1; PID:g511028
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;16-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-108 < WYS>
                                                                                                                                                                                                                                                                                                                                            Ig kappa chain (clone KL2.28) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 14-Feb-1997 #sequence_revision 13-Mar-1997 #text_change
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A; Accession: S38862
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PMID:1537587
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A;FILLE: B-cell proliferation initiated by Ia cross-linking and sustained by interleukin A;Reference number: S69900; MUID:92165291; PMID:1537587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: EMBL:X55049; NID:g511039; PIDN:CAA38889.1; PID:g511040 C;Superfamily: immunoglobulin V region; immunoglobulin homology F;16-90/Domain: immunoglobulin homology <IMM>
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A;Title: B-cell proliferation initiated by Ia cross-linkin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ig kappa chain (clone KL2.18 / KL4B10 / KL4C11) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 14-Feb-1997 #sequence revision 13-Mar-1997 #text_change 21-Jan-2000
C;Accession: S69900; S69907; S69908
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A; Residues: 1-108 < WY2>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Mus musculus (house mouse)
C;Date: 14-Feb-1997 #sequence revision 13-Mar-1997 #text_change 21-Jan-2000
C;Accession: $69903; $69904; $69905
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S69903
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A; Residues: 1-108 < WY3>
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A;Residues: 1-108 <WYS>
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                                                                                            ;Residues: 1-108 <WY3>
;Cross-references: EMBL:X55046; NID:g511033; PIDN:CAA38886.1; PID:g511034;Superfamily: immunoglobulin V region; immunoglobulin homology
;Superfamily: immunoglobulin homology <IMM>
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Best Local (
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Local Similarity 100.0%;
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92.6%; Scc.
100.0%; Pr
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                            Score 50; DB 2; Length 108; pred. No. 0.053;
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    . 0.053;
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R;Hawkins, R.E.; Zhu, D.; Ovecka, M.; Winter, G.; Hamblin, T.J.; Stevenson, F.K. submitted to the EMBL Data Library, March 1994
A;Description: Idiotypic vaccination against human B-cell lymphoma: rescue of variable A;Reference number: S44105
A;Accession: S44118
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S44118
Ig kappa chain precursor V region (anti-phenyloxazolone, 18C10) - mouse (fragment) C;Species: Mus musculus (house mouse) C;Species: J1-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 21-Jan-2000 C;Accession: JL0080 R;Kaartinen, M.; Rocca-Serra, J.; Maekelae, O. Mol. Immunol. 25, 859-865, 1988 A;Title: Combinatorial association of V genes: one VH gene codes for three non-cross-reac A;Reference number: JL0076; MUID:89096973; PMID:3211160 A;Accession: JL0080
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R;Kim, S.O.; Sanz, I.; Williams, C.; Capra, J.D.; Gottlieb, P.D.

Immunogenetics 34, 231-241, 1991
A;Title: Polymorphism in V kappa 10 genes encoding L chains of antibodies bearing the Are A;Accession: A53276; MUID:92010099; PMID:1916951
A;Accession: A53276
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C;Species: Homo sapiens (man)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 24-May-2001
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A;Residues: 1-115 <KIM>
A;Residues: 1-115 <KIM>
A;Residues: 1-115 <KIM>
A;Experimental source: AJI strain
A;Experimental source: Requence extracted from NCBI backbone (NCBIN:62777, NCBIP:62780)
A;Note: sequence extracted from NCBI backbone (NCBIN:62777, NCBIP:62780)
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;36-110/Domain: immunoglobulin homology <IMM>
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C;Species: Mus musculus (house mouse)
C;Date: 02-May-1994 #sequence_revision 18-Nov-1994 #text_change 21-Jan-2000
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A; Introns: 19/1
C; Superfamily: in
C; Keywords: hete;
F; 38-112/Domain:
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C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jan-2000
C;Accession: $42263
R;Scott, M.G.; Crimmins, D.L.; McCourt, D.W.; Chung, G.; Schaeble, K.F.; Thiebe, R.; Que
J. Immunol. 147, 4007-4013, 1991
A;Title: Clonal characterization of the human IgG antibody repertoire to Haemophilus inf
A;Reference number: $42263; MUID:92043792; PMID:1940382
A;Accession: $42263
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-117 <SCO>
                                                A;Introns: 19/1
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;38-112/Domain: immunoglobulin homology <IMM>
                                                                                                                              A;Cross-references: EMBL:M64856 C;Genetics:
                                                                                                                                                                                             A;Accession: S43528
A;Status: preliminary
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A;Note: the authors translated the codon AGG for residue 30 as Ser
                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-117 <SCO>
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                                     Query Match
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92.6%; S ilarity 100.0%; Conservative 0;
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100.0%; Pr
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100.0%; Pred. No. 0.0
cive 0; Mismatches
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; Pred. No. 0.058
0; Mismatches
Score 50; DB 2; Pred. No. 0.058; 0; Mismatches
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Ig kappa chain V region (2G8) - mouse C;Species: Mus musculus (house mouse) C;Apate: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 21-Jan-2000 C;Accession: B37266 R;Ruff-Jamison, S.; Campos-Gonzalez, R.; Glenney Jr., J.R. J. Biol. Chem. 266, 6607-6613, 1991 A;Title: Heavy and light chain variable region sequences and antibody properties of A;Reference number: A38740; MUID:91177923; PMID:1706720 A;Accession: B37266
                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: mRNA
A;Residues: 1-129 <ROC>
A;Cross-references: EMBL:X85995; NID:g758588; PIDN:CAA59987.1; PID:g758589
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
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S52789
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A; Residues: 1-128 <SAN>
A; Cross-references: UNIPROT: Q91WF8; GB: M15519
A; Cross-references: UNIPROT: Q91WF8; GB: M15519
C; Superfamily: immunoglobulin V region; immuno
C; Keywords: heterotetramer; immunoglobulin
F; 36-110/Domain: immunoglobulin homology <IMM>
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Proc. Natl. Acad. Sci. U.S.A. 84, 1085-1089, 1987
A;Title: V-K and J-K gene segments of A/J Ars-A antibodies:
A;Reference number: A26406; MUID:87147197; PMID:3103124
A;Accession: A26406
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A;Status: preliminary
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A;Description: Light Chain V region gene usage restriction and peculiarities in myeloma-t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Homo sapiens (man)
C;Date: 19-May-1995 #sequence_revision 21-Jul-1995 #text_change 21-Jan-2000
C;Accession: S52789
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1991 #text_change 09-Jul-2004
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100.0%; Prr
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A;Title: Heavy and light chain variable region sequences and A;Reference number: A38740; MUID:91177923; PMID:1706720
A;Accession: G38740
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
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                                                                                                                                                                                                                                                                                                                              A;Reference number: A90518; MUID:87157677; A;Accession: B26405
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Biochemistry 26, 604-612, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Accession: B26405
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 21-Jan-2000
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A; Residues: 1-111 < RUF>
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C;Species: Mus musculus (house mouse)
C;Date: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 09-Jul-2004
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A; Residues: 1-111 < RU
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;Superfamily: immunoglobulin v region; immunoglobulin homology;Reywords: heterotetramer; immunoglobulin;19-93/Domain: immunoglobulin homology <IMM>
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Matches
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Pred. No. 0.19;
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Pred. No. 0.083;
1; Mismatches
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C;Species: Mus musculus (house mouse)
C;Date: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 09-Jul-2004
C;Accession: A38740
R;Ruff-Jamison, S.; Campos-Gonzalez, R.; Glenney Jr., J.R.
J. Biol. Chem. 266, 6607-6613, 1991
A;Title: Heavy and light chain variable region sequences and antibody properties A;Reference number: A38740; MUID:91177923; PMID:1706720
A;Accession: A38740
                                                                                                                                                                                                         Ig kappa chain V region (Py2) - mouse C;Species: Mus musculus (house mouse) C;Date: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 09-Jul-2004 C;Accession: C38740 R;Ruff-Jamison, S.; Campos-Gonzalez, R.; Glenney Jr., J.R. J. Biol. Chem. 266, 6607-6613, 1991 A;Title: Heavy and light chain variable region sequences and antibody prope. A;Reference number: A38740; MUID:9117923; PMID:1706720 A;Accession: C38740 A;Accession: C38740 A;Status: preliminary; nucleic acid sequence not shown; not compared with c. A;Accession: C38740 A;Status: preliminary; nucleic acid sequence not shown; not compared with c. A;Maccession: C38740 A;Accession: C38740 A;Accession:
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E38740
A;Cross references: UNIPROT:Q91WS9
C;Superfamily: immunoglobulin V region; imm
C;Keywords: heterotetramer; immunoglobulin
F;19-93/Domain: immunoglobulin homology <II
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C;Superfamily: immunoglobulin V region; immuno
C;Keywords: heterotetramer; immunoglobulin
E;19-93/Domain: immunoglobulin homology <IMM>
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A;Title: Heavy and light chain variable region sequences and A;Reference number: A38740, MUID:91177923; PMID:1706720
A;Accession: E38740
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C;Superfamily: immunoglobulin V region; immuno
C;Keywords: heterotetramer; immunoglobulin
E;19-93/Domain: immunoglobulin homology <IMM>
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A; Residues: 1-111 < RUF>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
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                                                                                                                                                 A; Residues: 1-111 < RUF>
                                                                                                                                                                               A; Molecule type: mRNA
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90.9%;
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Pred. No.
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A;Molecule type: mRNA
A;Residues: 1-126 <BED>
A;Residues: 1-126 <BED>
A;Cross-references: UNIPROT:Q91WF8
A;Cuperfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;35-109/Domain: immunoglobulin homology <IMM>
 Ig kappa chain V region - mouse
C;Species: Mus musculus (house mouse)
C;Date: 08-May-1995 #sequence_revision
C;Accession: S52447
R;Berdoz, J.; Kraehenbuhl, J.P.
submitted to the EMBL Data Library, Nov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ig kappa chain precursor V region (5-27) - mouse C;Species: Mus musculus (house mouse) C;Date: 27-Jul-1990 #text_change C;Accession: A34904
R;Bedzyk, W.D.; Herron, J.N.; Edmundson, A.B.; Voss Jr., E.W. J. Herron, J.S.; 133-138, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: mRNA
A;Residues: 1-122 <CHE>
A;Cross-references: GB:M17160; GB:J02815; NID:g196895; PIDN:AAA38824.1; PID:g196896
A;Cross-references: GB:M17160; GB:J02815; NID:g196895; PIDN:AAA38824.1; PID:g196896
A;Cross-references: translated the codon TTC for residue 1 as Leu
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
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S52447
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A34904
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R;Chen, H.T.; Kabat, E.A.; Lundblad, A.; Ratcliffe, R.M.
J. Biol. Chem. 262, 13579-13583, 1987

A;Title: Nucleotide and translated amino acid sequences of cDNA
A;Reference number: A92612; MUID:88007582; PMID:3115981
A;Accession: A29380
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90.9%;
J.P.
Library,
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Pred. No. 0.22
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Pred. No. 0.21;
1; Mismatches
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A;Description: Specific amplification by the polymerase chain reaction of x A;Reference number: $52445
A;Reference number: $52445
A;Recession: $52447
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-127 <BER>
A;Cross-references: EMBL:X82688; NID:g673443; PIDN:CAA58009.1; PID:g673444
C;Genetics:
A;Introns: 17/1
C;Superfamily: immunoglobulin v region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
                                                                                                      A;Status: preliminary
A;Molecule type: mkNA
A;Molecule type: mkNA
A;Residues: 1-107 < IZUs
A;Cross-references: EMBL:X70090; NID:g288253; PIDN:CAA49695.1; PID:g288254
A;Cross-references: EMBL:X70090; NID:g288253; PIDN:CAA49695.1; PID:g288254
C;Superfamily: immunoglobulin V region; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                         Ig kappa chain V region - mouse (frag
C;Species: Mus musculus (house mouse)
C;Date: 06-Feb-1995 #sequence_revisio
C;Accession: S32188
R;Izui, S.
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S32188
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A;Residues: 1-108 «KAA»
A;Note: 87-Phe was also found
C;Superfamily: immunoglobulin V region; immuno
E;16-90/Domain: immunoglobulin homology «IMM»
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
S11124
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                                  Query Match
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Pred. No. 0.22
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C;Accession: A91653; AULIUL, N. C;Accession: A91653; AULIUL, N. R;Schiechl, H.; Hilschmann, N. R;Schiechl, H.; Hilschmann, N. R;Schiechl, H.; Hilschmann, N. Roppe-Seyler's Z. Physiol. Chem. 353, 345-370, 1972
A;Title: Die Primaerstruktur einer monoklonalen Immunglobulin-L-Kette vom kappa-Typ, Suba, Parities Die Primaerstruktur einer monoklonalen Immunglobulin-L-Kette vom kappa-Typ, Suba, Parities Die Primaerstruktur einer monoklonalen Immunglobulin-L-Kette vom kappa-Typ, Suba, Parities Die Primaerstruktur einer monoklonalen Immunglobulin-L-Kette vom kappa-Typ, Suba, Parities Die Primaerstruktur einer monoklonalen Immunglobulin-L-Kette vom kappa-Typ, Suba, Parities vom kappa-Typ, Pa
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A;Title: The structure determination: 7702433; pMID:1234024
A;Reference number: A90729; MUID:7702433; pMID:1234024
A;Concents: annotation; X-ray crystallography
A;Note: the structure of the V region was determined by molecular replacement methods us A;Note: the Structure of the V region was determined by molecular replacement methods us R;Steiner, V; Chang, J:Y.
FEBS Lett. 222, 6-10, 1987
A;Title: Chemical modification of the carboxyl groups of protein substrates enhances the A;Reference number: $02572; MUID:88005152; PMID:3115831
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A;Accession: PH0888
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R;Shalaby, M.R.; Shepard, H.M.; Presta, L.; Rodrigues, M.L.; Beverley, P.C.L.; Feldmann, J. Exp. Med. 175, 217-225, 1992
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C; Complex: an immunoglobulin heterotetramer subunit consists of two identical light (kap hain disulfide bonds; in some cases, such as IgA and IgM, the subunits associate into la C; Superfamily: immunoglobulin V region; immunoglobulin homology
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C;Species: Mus musculus (house mouse)
C;Date: 09-Oct-1992 #sequence_revision 09-Oct-1992 #text_change 21-Jan-2000
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C; Comment: This is a Bence Jones protein.
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A; Cross-references: UNIPROT: P01594
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;Residues: 1-109 <SHA>
;Superfamily: immunoglobulin V region; immunoglobulin homology
;Keywords: immunoglobulin
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Local Similarity 90.0%;
108 9; Conservation
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Pred. No. 0.44;
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Pred. No. 0.44;
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A;Molecule type: mRNA

A;Residues: 1-111 <RUI>

G;Superfamily: immunoglobulin V region; immunoglobulin homology

C;Keywords: heterotetramer; immunoglobulin

F;19-93/Domain: immunoglobulin homology <IMM>
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192.513 Million cell updates/sec
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Query Match
Best Local Similarity
Matches 11; Conserv

100.0%; Score 54; DB 1; Length 108; 100.0%; Pred. No. 0.034;

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HMBL; K00745; AAA38690.1; HSSP; POL594; LJV5. InterPro; IPRO07110; Ig-like. InterPro; IPRO03596; Ig_v. Pfam; PF00047; ig; l. SMART; SM00406; IGy; l. SMART; SM00406; IGy; l. PROSITE; PS50835; IG_LIKE; l. PROSITE; PS50835; IG_LIKE; l. PROSITE; PS50835; IG_LIKE; l. PROSITE; PS50835; IG_LIKE; l. PROMAIN 1 23 Complementarity-determini DOMAIN 24 34 Complementarity-determini DOMAIN 35 49 Framework-2. DOMAIN 50 56 Complementarity-determini DOMAIN 57 88 Framework-3. DOMAIN 59 97 Complementarity-determini DOMAIN 98 107 Framework-4. DISULFID 23 88 By Similarity. NON TER 108 108 By Similarity. SEQUENCE 108 AA; 11866 MW; DB2C885920DC6DDD CRC64;	RESULT 1 KV5U MOUSE ID T 13-AUG-1987 (Rel. 05, Created) DT 13-AUG-1987 (Rel. 05, Last sequence update) DT 13-AUG-1987 (Rel. 05, Last sequence update) DT 13-AUG-1987 (Rel. 05, Last sequence update) DT 13-AUG-1987 (Rel. 05, Created) DT 14-AUG-1987 (Rel. 05	40 74.1 7735 2 Q9VMT8 39 72.2 107 2 Q96SA9 39 72.2 107 2 Q96SA9 39 72.2 118 2 Q9UL77 39 72.2 117 1 KV5H MOUSE 39 72.2 225 2 Q9X556 39 72.2 461 2 Q938Y1 39 72.2 1661 2 Q9H192 39 72.2 1093 2 Q8EV69 39 72.2 1665 2 Q9FDL3 38 70.4 67 2 Q8YXNO 38 70.4 108 1 KV1O HUMAN 38 70.4 433 2 Q7V117 38 70.4 443 2 Q7V1584 38 70.4 581 2 Q6NIA8 38 70.4 581 2 Q6NIA8 38 70.4 581 2 Q6NIA8
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                                                                                                                                                                                                                                                                                                                                                                           "N segment insertion and region directed somatic hypkappa gene of a t (2,8) chromosomal translocation.";
Nucleic Acids Res. 15:4877-4888(1987).
EMBL; X05929; CAE82012.1; -.
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Nucleic Acids Res. 15:4877-4888(1987).
EMBL; X05929; CARBE2012.1; -.
InterPro; IPROGRAM
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CAE82012;
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation leading to Burkitt's
Human DNA rearranged by a t(2;8) translocation leading to Burkitt's
Tymphoma in the cell line JI (clone JIp) (Fragment).
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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MEDLINE=87259967; PubMed=3110741;
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Primates;
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RESULT
KV5L_MC
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation updat
-- Panna chain V-V region HP R16.7.
                                                                                                                                                                                                                                                                                                                                                                                                                              MOUSE
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
Ig kappa chain V-V region HP 93G7.
Mus musculus (Mouse)
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MEDLINE=82150934; PubMed=6801658;
Siegelman M., Capra J.D.;
Siegelman M., Capra J.D.;
Complete amino acid sequence of light chain variation five monoclonal anti-p-azophenylarsonate anti-
with respect to a crossreactive idiotype.";
Proc. Natl. Acad. Sci. U.S.A. 78:7679-7683(1981).
          Eukaryota;
Mammalia; I
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                     STRAIN=A/J;
MEDLINE=82150934; PubMed=6801658;
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InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
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HSSP; P01594; 1JV5.
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PS50835; IG_LIKE;
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21-JUL-1986 (Rel. 0
21-JUL-1986 (Rel. 0
05-JUL-2004 (Rel. 4
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"Complete amino acid sequence of light chain variable regions deriver from five monoclonal anti-p-azophenylarsonate antibodies differing with respect to a crossreactive idiotype.";
Proc. Natl. Acad. Sci. U.S.A. 78:7679-7683 (1981).
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SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
                                                                              DISULFID NON_TER
                                                                                                                                    DOMAIN
DOMAIN
                                                                                                                                                                    Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
                                                                                                                                                                                              -!- MISCELLANEOUS: Anti-arsonate hybridoma protein.
HSSP; P01594; 1JV5.
InterPro; IPR007110; Ig-1ike.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                               Ig kappa chain V-V romus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                               MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct protein
                                                                                                                                                               Direct
                                                                                                                                                                                                                                                                                MEDLINE=82150934; PubMed=6801658;
                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                     KVSM_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
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                                                                       SEQUENCE
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5 ASQDISNYLN 34
                                          Similarity
         ASQDISNYLN
ASQDISNYLN
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IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                   Conservative
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1 23 Framework-1.
                                                                                                                                                             sequencing;
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01, Last sequence update)
44, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                       region HP 123E6.
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                                                                      11989 MW;
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                                           92.6%;
                              J.0%;
                                                                                                                                                            Immunoglobulin V region
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                                          Score 50;
Pred. No.
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                                                                                               Framework-3.
Complementarity-determining-3
Framework-4.
                                                                                                                                   Complementarity-determining-1 
Pramework-2.
                                                                                                                         Complementarity-determining-2.
                                                                                                                                                     Framework-1
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                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22F4642C63EFF58E CRC64;
                                   Mismatches
                                                                      4C98599C08EBA09A CRC64;
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                                                                                       similarity.
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0.19;
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                                                                                                               C STRAINE-VB/N; TISSUE=Colon;

X MEDLINE=22388257; PubMed=12477932;

X MEDLINE=22388257; PubMed=12477932;

X Klausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

X Klausberg R.L., Feingold E.A., Grouse L.H., Schmeen C.M., Schuler G.D.,

X Klausner R.D., Collins F.S., Wagner L., Schmeer C.F., Bhat N.K.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schmeer C.F., Bhat N.K.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Brownstein M.J., Ugdin T.B., Toshiyuki S., Carninci P., Prange C.,

A Stapleton M., Jourgellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

A Brownstein M.J., Ugdin T.B., Toshiyuki S., Carninci P., Prange C.,

A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

A Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

A Richards S., Worley K.C., Hale S., Garcia A.M., Gyb L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

A Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

A Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Milting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

A Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Balakesley R.W., Touchman J.W., Schmetch A., Schein J.S.,

Kornes S. T. Maryar M.A. & M., Schmetch A., Schein J.S.,

Kornes S. T. Maryar M.A. & M., Smailus D.E., Schnerch A., Schein J.S.,
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Best Local S
Matches 10
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01-DEC-2001 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Liang Z., Xie C., Chen C., Kreska D., Hsu K., "Antinuclear autoantibodies from B6.Sle1 mice. Submitted (SEP-2003) to the EMBL/GenBank/DDBJ EMBL; AY436832; AAR10992.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
ANA immunoglobulin kappa light chain (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=FVB/N; TISSUE=Colon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein. Mus musculus (Mouse).
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Liang Z., Xie C., Chen C., Kre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia, Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                   Jones S.J., Marra M.A.; "Generation and initial analysis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                  EQUENCE FROM N.A
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                                                                      mouse
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10; Conservative
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                                                                    cDNA sequences."
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111 AA;
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12120 MW;
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Rodentia;
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100.0%; Fr
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19,
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
                                                   99:16899-16903 (2002)
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                                                                                     more than 15,000
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                                                                                       full-length
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STRAIN=FVB/N;

TISSUE=Colon

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RESULT

OCCUPANT

OCCUPANT
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Query Match
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Matches 10
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Submitted (
EMBL; BC015
PIR; A26406
PIR; A34904
PDB; 1JFQ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KV5N MOUSE
P01647;
21-JUL-1986
                                                                                            DISULFID NON_TER
                                                                                                                                                                       DOMAIN
DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF07654; C1-set; 1.
Pfam; PF07047; ig; 1.
SMART; SM00406; IGV; 1.
PROSITE; PS50835; IG_LIKE; 2.
PROSITE; PS00962; IG_MHC; UNKNOWN_1.
PROSITE; PS00962; RIBOSOWAL_S2_1; UNKNOWN_1.
Hypothetical protein.
                                                                                                                                                                                                                                                                              Pfam; PF00047; 19; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG LIKE; 1.
                                                                                                                                                                                                                                                                                                                                                                                               "Complete amino acid sequence of light chain variable regions deri-
from five monoclonal anti-p-azophenylarsonate antibodies differing
with respect to a crossreactive didotype.",
Proc. Natl. Acad. Sci. U.S.A. 78:7679-7683(1981).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
15 kappa chain V-V region HP 124E1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=A/J;
MEDLINE=82150934; PubMed=6801658;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota;
                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                    Direct
                                                                                                                                                                                                                                                                                                                                        InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P01607; 1REI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Siegelman M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            interPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nterPro;
Local Similarity hes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
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1JFQ; X-ray; I
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                                                                                                                                                                                                                                                                    protein
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71; IPR007110; Ig-like.
71; IPR003597; Ig_cl.
71; IPR003596; Ig_MHC.
71; IPR003596; Ig_v.
72; IPR001865; Ribosomal_S2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Metazoa;
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   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Mouse)
                                                                                                                                                                                                                                                                  sequencing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001) to the EMBL/GenBank/DDBJ databases. AAH15292.1; -.
                                                                                                                                  23
34
49
56
88
97
108
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Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  J.D.;
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                   87.0%;
                                                                           11965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92.6%;
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                                                                           MW;
                                                                                                                                                                                                                                                              Immunoglobulin V region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>,</u>
Score 47; DB 1
Pred. No. 0.71;
1; Mismatches
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Pred. No.
                                                                                                                βy
                                                                                                                                Complementarity-determining-3 Framework-4.
                                                                                                                                                                                     Framework-2.
Complementarity-determining-2.
                                                                                                                                                                         Framework-3.
                                                                                                                                                                                                                           Complementarity-determining-1.
                                                                                                                                                                                                                                                 Framework-1
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                                     Length 108;
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Q8R062;
01-JUN-2002 (TrEMBLrel. 2
01-JUN-2002 (TrEMBLrel. 2
01-MAR-2004 (TrEMBLrel. 2
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DISULFID
NON TER
SEQUENCE
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"Complete amino acid sequence of light chain variable from five monoclonal anti-p-azophenylarsonate antibowith respect to a crossreactive idiotype.";

Proc. Natl. Acad. Sci. U.S.A. 78:7679-7683(1981).
SEQUENCE FROM N.A.
STRALN=FVB/N; TISSUE-Colon;
MEDILINE=22388257; PubMed=12477932;
Strausberg R.L., Feingold E.A., Grouse L.H.,
Klausner R.D., Collins F.S., Wagner L., Shend
Altschul S.F., Zeeberg B., Buetow K.H., Schae
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DOMAIN
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STRAIN=A/J;
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DOMAIN
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SMART; SM00406; IGv;
PROSITE; PS50835; IG
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21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   XV50
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Mammalia; Eutheria;
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Mammalia; Eutheria; Rodentia;
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InterPro; IPR003596; Ig_v.
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Pred. No.
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By similarit
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Complementarity-determining-3
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Sciurognathi; Muridae; Murinae; Mus
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InterPro; IPR003597; Ig_cl.
InterPro; IPR003006; Ig_MHC.
InterPro; IPR003596; Ig_v.
Pfam; PF07654; Cl-Bet; I.
Pfam; PF00767; Ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 2.
PROSITE; PS50835; IG_MHC; UNKNOWN_1.
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SEQUENCE
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STRAIN-B6.Sle1; TISSUE-Spleen;
Liang Z., Xie C., Chen C., Kreska D., Hsu K., Zh
"Antinuclear autoantibodies from B6.Sle1 mice.";
Submitted (SEP-2003) to the EMBL/GenBank/DDBJ da
EMBL; AY436840; AAR11000.1; -.
                                                                                                                                                                                                                                                                                  02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
ANA immunoglobulin kappa light chain (Fragment).
Mus musculus (Mouse)
Eukaryota Mouse)
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                                                                                                                                                                                                                                                                                                                           02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TremBLrel. 27, 02-MAR-2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical protein. SEQUENCE 234 AA;
                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Pred. No. 1.6;
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
01-OCT-2004 (Rel. 45, Last annotation
To kanna chain V-I region AU.
                                                                                                                                                                                                                  Biophys.
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Liang Z., Xie C., Chen C., Kreska D., Hau K., Zhou J.X., Mohan
"Antinuclear autoantibodies from B6.Sle1 mice.";
Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
PIR; A91653; K1HUAU.
PDB; 1JV5; X-ray; A=1-107.
GO; GO:0005576; C:extracellular; NAS.
GO; GO:0003823; F:antigen binding; NAS.
                                                                                                                                                                                                                                                                                                                     MEDLINE=77022433; PubMed=1234024; Fehlhammer H., Schiffer M., Epp O., Schwager P., Steigemann W., Schramm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Schiechl H., Hilschmann N.;
"Rule of antibody structure. The primary structure immunoglobulin L-chain of the kappa-type, subgroup protein Au).";
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Schiechl H., Hilschmann N.;
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
ANA immunoglobulin kappa light chain (Fragment).
Mus musculus (Mouse).
                                                                                                                                                                                                                                           Jones protein Au.";
Biophys. Struct. Mech.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                                                                                                                            'The structure determination of the variable portion
                                                                                                  phys. Struct. Mech. 1:139-146(1975).

MISCELLANEOUS: The structure of the V region we molecular replacement methods using the known region of the kappa chain REI.

MISCELLANEOUS: The C region of this chain has MISCELLANEOUS: This is a Bence-Jones protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HUMAN
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11473 MW;
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InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
                                         CLIN. Immunol. Immunopathol. 87:184-192(1998)
HSSP; P01607; 1BWW.
                                                                                                                    Wu X., Liu B., Van der Young D.C.,
                                                                                                                                  MEDLINE=98277139; PubMed=9614934; Win X. Liu B., Van der Merwe P.L.,
                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
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InterPro; IPR003596; Ig_v.
                                                                                                        "Myosin-reactive autoantibodies
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(TrEMBLrel. 25, Last annotation update)
ive immunoglobulin light chain variable
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PROSITE; PS50835; IG L:
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01-NOV-1995 (Rel. 32, Last sequence update)
01-OCT-2004 (Rel. 45, Last annotation update)
Ig kappa chain V-I region WAT.
Homo sapiens (Human)
                                                                                                                                                                                                                                                         "Characterization and preliminary crystallographic data on related fragment of the human kI Bence Jones protein Wat."; J. Mol. Biol. 147:185-193 (1981).
-i- MISCELLANEOUS: This is a Bence-Jones protein.
-pdb; INTL; X-ray; A/B=1-108.
                                                                                                                                                                                                                                GO; GO:0005576; C:extracellular; NAS. GO; GO:0003823; F:antigen binding; NAS. GO; GO:0006955; P:immune response; NAS.
                                                                                                                                                                                                                                                                                               Stevens F.J., Westholm F.A., Popp R.A., Solomon A.; "Characterization and prelimi
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE, AND X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS).
MEDLINE-95086080; PubMed-7993911;
Huang D.-B., Chang C.-H., Alnaworth C., Bruenger A.T
Huang D.-B., Stevens F.J., Schiffer M.;
Solomon A., Stevens F.J., Schiffer M.;
"Comparison of crystal structures of two homologous
structural origin of altered domain interactions in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P80362;
                                                                                                                                                              3D-structure; F
Immunoglobulin
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InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                  PROSITE; PS50835; IG
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Pred. No.
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TN -> SD (in R
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GO; GO:0005576; C:extracellular; NAS.
GO; GO:0003823; F:antigen binding; NAS.
GO; GO:0006955; P:immune response; NAS.
InterPro; IPR007110; Ig-11ke.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE-85014148; PubMed-6091049;
Klobeck H.G., Combriato G., Zacha
                                                                                                          Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG LIKE; 1.
                                                                                                                                                                                                  EMBL; X00965; CAA25477.1; ALT_TERM.
PIR; A01883; K1HUWK.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                 Nucleic Acids Res. 12:6995-7006(1984).
                                                                                                                                                                                                                                                                                                                        Klobeck H.G., Combriato G., Zachau H.G.; "Immunoglobulin genes of the kappa light chain type from two lymphoid cell lines are closely related.";
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05, Last sequence update)
38, Last annotation updat
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Pred. No. 2.6;
                                               Complementarity-determining-1. Framework-2.
                 Complementarity-determining-3
                            Framework-3
                                    Complementarity-determining-2.
                                                                   Ig kappa chain V-I region Walker.
Framework-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               D9D941B3F0FAE697 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               129
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₿
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                                                                                                                                                                                                                                                                                    a collaboration -
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                                            Query Match
Best Local S
Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X MEDLINE-22380257; PubMed-12477932;

X Strausberg R.L., Peingold B.A., Grouse L.H., Derge J.G.,

A Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hong L.,

A Hopkins R.F., Jordan H., Moore T., Max R., Rubin G.M., Hong L.,

A Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

B Brownstein M.J., Usdin T.B., Peters G.J., Abramson R.D., Mullahy S.J.,

A Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

B Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

B Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

A Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

A Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

A Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Kraywinski M.I., Skalska U., Smailus D.B., Schmerch A., Schein J.E.,

Kraywinski M.I., Skalska U., Smailus D.B., Schmerch A., Schein J.E.,
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Best Local Similarity
Matches 9; Conserv
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Q7Z3Y4;
01-OCT-2003
01-OCT-2003
01-MAR-2004
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                                                                                                                                                                                     Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, BC005332; AAH05332.1; -.
InterPro; IPR007110; Ig-11ke.
InterPro; IPR003597; Ig-11.
InterPro; IPR003596; Ig-MHC.
InterPro; IPR003596; Ig-MHC.
InterPro; IPR003596; Ig-MHC.
Pfam; PF07654; C1-set; I.
Pfam; PF07654; C1-set; I.
SMART; SM00406; IGv; 1.
                                                                                                                Hypothetical SEQUENCE 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hypothetical protein. Homo sapiens (Human).
                                                                                                                                                  PROSITE; PS50835; IG_LIKE; 2.
PROSITE; PS00290; IG_MHC; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                              Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Jones S.J., Marra M.A.; "Generation and initial analysis of and mouse cDNA sequences.";
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TISSUE=Skeletal Mu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                   rissum=Skeletal Muscle;
                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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ASQDISNYL 10
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129 AA;
                                                                                                                  236 AA;
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                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Muscle;
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                                                                                                                    25702 MW; 7FBFE4ED23084BC6 CRC64;
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                                                             81.5%;
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Last annotation update)
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Pred. No.
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                                                Mismatches
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3.2;
                                                                6;
BB
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                                                Indels
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Best Local S
Matches 9
Immunoglobulin \
DOMAIN 1
DOMAIN 24
DOMAIN 35
DOMAIN 50
DOMAIN 57
DOMAIN 89
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AAR11052;
02-MAR-2004 (
02-MAR-2004 (
02-MAR-2004 (
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NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                       GG; GO:0005576; C:extracellular; NAS.
GO; GO:0003823; F:anttgen binding; NAS.
GO; GO:0006955; P:immune response; NAS.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN=B6.Sle1; TISSUB=Spleen;
Liang Z., Xie C., Chen C., Kreska D., Hsu K.,
Liang Z., Xie C., Chen C., Kreska D., Hsu K.,
"Antinuclear autoantibodies from B6.Sle1 mice.
Submitted (SEP-2003) to the EMBL/GenBank/DDBJ
EMBL; AY436892; AAR11052.1; -.
                                                                                                                                     PROSITE; PS50835; IG_LIKE; 1. Bence-Jones protein; Direct p Immunoglobulin V region.
                                                                                                                                                                                                      Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
                                                                                                                                                                                                                                                                                                                                                                 HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                    J. Biol. Chem. 244:3550-3560(1969).
-!- MISCELLANEOUS: The C region of this chain has the INV
-!- MISCELLANEOUS: This is a Bence-Jones protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Titani K., Shinoda T., Putnam F.W.;
"The amino acid sequence of a kappa type Bence-Jones protein.
complete sequence and the location of the disulfide bridges.";
J. Biol. Chem. 244:3550-3560(1969).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-MAR-2004 (TYEMBLrel. 27, Created)
02-MAR-2004 (TYEMBLrel. 27, Last sequence update)
02-MAR-2004 (TYEMBLrel. 27, Last annotation update)
02-MAR-2004 (TYEMBLrel. 27, Last annotation update)
ANA immunoglobulin kappa light chain (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                      PIR; A01861; K1HUAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=69234734; PubMed=4893682;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                               P01607; 1BWW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22
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9; Conservative
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103 AA;
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89
  / region.
23
34
49
56
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11332 MW;
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Rodentia;
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Primates;
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                                                                                                                                                          protein
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Pred. No.
                     Complementarity-determining-2. Framework-3.
                                                                 Complementarity-determining-1. Framework-2.
Complementarity-determining-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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5.9;
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Matches 8
                                                            05-JUL-200.
05-JUL-2004 (Trans...
05-JUL-2004 (Trans...
Hypothetical protein.
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01-DEC-2001
01-DEC-2001
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DISULFID
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SEQUENCE
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SEQUENCE
    SEQUENCE FROM N.A.
TISSUE-Splen;
MEDLINE=22388257; PubMed=12477932;
Strausberg R.L., Feingold E.A., Gr
Klausner R.D., Collins F.S., Wagne
                                                                                                            Q6GMX0;
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

MEDLINE=21361171; PubMed=11468171;
Comenzo R.L., Zhang Y., Martinez C.,

"The tropism of organ involvement in
contributions of Ig V(L) germ line ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-2001 (TrEMBLrel. 19, C
01-DEC-2001 (TrEMBLrel. 19, I
01-OCT-2003 (TrEMBLrel. 25, I
Kappa 1 light chain variable
                                                                                                                                                                                                                                                                                                                   InterPro; IPR003596; Ig_v. Pfam; PF00047; 1g; 1. SMART; SM00406; IGv; 1.
                                                                                                                                                                                                                                                                                                                                             Blood 98:714-720(2001).
EMBL; AF361758; AAK51465.1; -
HSSP; P80362; IWTL.
InterPro; IPR007110; Ig-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=SDNK1;
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                                                                                                                                                    Q6GMX0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 domo sapiens (Human)
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8; Conservative
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                                                                                                                                                                                                                   ASQDISNYLN
                                                                                                                                                                                                                                                                                                         PS50835; IG_LIKE; 1
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                                                                                                                                                                                                                                                                             116
116 AA;
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23
108
108 AA;
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                                                                                                                                                    PRELIMINARY;
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12735 MW;
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Last sequence update)
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e region (Fragment).
                                                                                                             Last sequence update)
Last annotation updat
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Pred. No.
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Pred. No.
       Wagner
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                                                                         Craniata; Ve
Catarrhini;
                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                             nent in primary systemic amyloido
line gene use and clonal plasma
                                                                                                                                                                                                                                                                               E796FC2217BFCF57 CRC64;
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Mismatches
                 Grouse L.H.,
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M., Schuler
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RESULT 23
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RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsleh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RABA S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RABA S.S., Loquellano N.A., Sodersnan K.J., Malek J.A., Gunaratne P.H.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
VIllalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
VIllalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
VIllalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
VIllalon D.K., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
VILLA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
VA Whiting M., Touchman J.W., Green E.D., Dickson M.C.,
VA Rodriguez A.C., Grinwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
VA Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
VA Jones S.J. Marra M.A.
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Best Local
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21-JUL-1986 (Rel. 01,
21-JUL-1986 (Rel. 01,
05-JUL-2004 (Rel. 44
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Pfam; PF00047; ig; 2.
SMART; SM00409; IG; 2.
SMART; SM00409; IGC1; 1.
SMART; SM00406; IGV; 1.
PROSITE; PS050835; IG LIKE; 2.
PROSITE; PS050290; IG_MHC; UNKNOWN_1.
Hypothetical protein.
SEQUENCE 236 AA; 25807 MW; 864EA08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg R.;
Strausberg R.;
Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BC073775; AAH73775.1; -
InterPro; IPR003599; Ig.
InterPro; IPR007110; Ig-11ke.
InterPro; IPR003597; Ig_c1.
InterPro; IPR00306; Ig_MHC.
InterPro; IPR00306; Ig_MHC.
InterPro; IPR00306; Ig_MHC.
InterPro; IPR00306; Ig_MHC.
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                  PIR; A01926; KVMS73.
HSSP; P01594; 1JV5.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                          MEDLINE=76091934; PubMed=812696; Schiff C., Fougereau M.;
                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                      "Determination of the primary structure of immunoglobulin. Amino-acid sequence of the Eur. J. Biochem. 59:525-537(1975).
                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
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"Generation and initial analysis of more than 15,000 and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Spleen;
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01, Last sequence update)
44, Last annotation update)
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Pred. No.
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Matches
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Best Local S
Matches 8
                                                                 Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAR-2004 (TrEMBLrel. 26, 01-MAR-2004 (TrEMBLrel. 26, 01-MAR-2004 (TrEMBLrel. 26,
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                                                                                         SEQUENCE
                                                                                                                       preliminary data.
EMBL; AABL01002034; EAA18272.1; -.
                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN=17XNL;
                                                                                                                                                                                                                                                                                                                                                                                                                    Erythrocyte membrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q7PDL4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q7PDL4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                    "Genome sequence and comparative analysis of the model rodent malaria parasite Plasmodium yoelii yoelii.";
Nature 419:512-519(2002).
                                                                                                                                                                                                                                                                                                                                                                             Plasmodium yoelii yoelii.
Bukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
                                                                                       InterPro; IPR000276; GPCR_Rhodpsn.
PROSITE; PS00237; G_PROTEIN_RECEP_
SEQUENCE 859 AA; 96311 MW; 1C3
                                                                                                                                                                                                           Carucci D.J.;
                                                                                                                                                                                                                                                                                                                          PubMed=12368865;
                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=73239;
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                                                       Local
                                                                                                                                               CAUTION: The sequence shown here is der EMBL/GenBank/DDBJ whole genome shotgun
161
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                    -
                                          Similarity
7; Conserve
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                     SASQDISNYLN 11
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SAPSDVSNYIN
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108 AA;
                                           Conservative
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                                                      75.9%;
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72.7%;
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171
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Last annotation update)
n PFEMP3.
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                                                      Score 41;
Pred. No.
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Complementarity-determining-1.
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                                                                                        CEP_F1_1; UNKNOWN_1.
1C35C377A8DB8064 CRC64;
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                                           Mismatches
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gun (WGS)
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9.6;
                                                                  DB 2; Length 859;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
                                            Indels
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                                           Gaps
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RESULT 25 Q91WS9 ID Q91WS AC Q91WS

Q91WS9;

PRELIMINARY;

PRT;

233

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RESULT 26
Q6LZW4
ID Q6LZW
AC Q6LZW
DT 05-JU
DT 05-JU
DT 05-JU
DT 05-JU
DE Formy
GN Name=
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RC STRAIN=FV9/N; TISSUB=Colon;

RX MEDLINE=22388257; PubMed=12477932;

RX MEDLINE=22388257; PubMed=12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.R., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Bosak S.A., McEwan P.J., Keernan K.J., Abramson R.D., Mullahy S.J.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Fahey J., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

RA Rodriguez A.C., Sralska U., Smailus D.E., Schnerch A., Schein J.E.,

RA "Generation and initial analysis of more than 15,000 full-length human

"Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR007110; Ig-like.
InterPro; IPR003597; Ig_cl.
InterPro; IPR003597; Ig_mHC.
InterPro; IPR003596; Ig_w.
Pfam; PP07654; Cl.set; I.
Pfam; PP00047; Ig; 1.
SMART; SM00406; IGv; 1.
Q6LZW4 PRELIMINARY; PRT; 583 AA.
Q6LZW4;
Q6LZW4;
Q5-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Pormylmethanofuran dehydrogenase, subunit A (EC 1.2.99.5).
Name=fmdA; OrderedLocusNames=MMPDSO9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-DEC-2001
01-DEC-2001
01-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proc.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS50835; IG_LIKE; 2.
PROSITE; PS00290; IG_MHC; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted
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STRAIN=FVB/N; TISSUE=Colon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
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C38740; C38740.
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G38740; G38740.
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8; Conserv
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(TrembLrel. 19, Last seq
(TrembLrel. 26, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AA; 25781 MW;
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                                                                                                                                                                                                                                                                                                                                                                                    53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        74.18;
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Last annotation updat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 40; DB 2;
Pred. No. 34;
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B1C184DA149A16EB CRC64;
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RESULT 27
CAF30065
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Matches 7
                                                                                                Query Match
Best Local S
Matches 7
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EMBL; BX957220; CAF30065.1; -. GO; GO:0018493; F:formylmethanofuran dehydrogenase activity; IEA. GO; GO:0016491; F:oxidoreductase activity; IEA. InterPro; IPR011059; Metalo hydrolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-S2 / LL;
Hendrickson E.L., Kaul R., Zhou Y., Bovee D., Chapman P., Chung J.,
Conway de Macario E., Dodsworth J., Gillett W., Graham D.E.,
Haydock A.K., Kang A., Land M.L., Levy R., Lie T.J., Major T.,
Moore B., Porat I., Overbeek R., Palmeiri A., Rouse G.,
Saenphimmachak C., Soll D., Whitman W.B., Larimer F.W., Olson M.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-MAR-2004 (TrEMBLrel. 27, 03-MAR-2004 (TrEMBLrel. 27, 04-MAY-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                              methanogen Methanococcus maripaludis.";
Submitted (FEB-2004) to the EMBL/GenBank/DDBJ
EMBL; BMS57220; CAF30065.1; -.
Oxidoreductase.
                                                                                                                                                                                                                                                                                                                                                                                Hendrickson E.L., Kaul R., Zhou Y., Bovee D., Chapman P., C
Conway de Macario E., Dodsworth J., Gillett W., Graham D.E.
Haydock A.K., Kang A., Land M.L., Levy R., Lie T.J., Major
Moore B., Porat I., Overbeek R., Palmeiri A., Rouse G.,
Semphimmachak C., Soell D., Whitman W.B., Larimer F.W., Ol
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Archaea; Euryarchaeota; Methanococci; Methanococcales; Methanococcaceae; Methanococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. STRAIN=S2 / LL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Formylmethanofuran FMDA OR MMP0509.
                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Archaea; Euryarchaeota; Methanococci; Methanococcaceae; Methanococcus.
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                                                                                                                                                                                                                                                                                                                                                               eigh J.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CBI_TaxID=39152;
                                                                                                                                                                                                                                                                                                                                     Complete genome sequence of the mesophilic hydrogenotrophic
305
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                                                                                                7; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        proteome; Oxidoreductase.
                                                SASQDISNYLN
SKAEDISNYVN
                                                                                                                                                                                                            583 AA;
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                                                                                                      Conservative
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Lrel. 27, Last annotation update)
dehydrogenase, subunit A (EC 1.2.99.
                                                                                                                                                                                                            64594 MW;
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63.6%;
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63.6%;
315
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                            76CFF31FF5DA0263 CRC64;
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                                                                                                        Mismatches
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                                                                                                                                                      Length 583;
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RESULT 28 Q8ILX3 ID Q8ILX

Q8ILX3

PRELIMINARY;

PRT;

956

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Q7RDE ID Q7RDE ID Q7RDE ID Q7RDE ID Q7RDE AC Q7RDE D1 MADE ID ID MADE 
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01-MAR-2004
01-MAR-2004
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Eukaryota; Alveolata;
NCBI_TaxID=36329;
                                                                                                                                                                                                                                                                                                                                                                                                                     Carlton J.M., Angiuoli S.V., Suh B.B., Kooij T.W., Pertea M., Silva J.C., Ermolaeva M.D., Allen J.E., Selengut J.D., Koo H.L., Peterson J.D., Pop M., Kosack D.S., Shumway M.F., Bidwell S.L., Shallom S.J., van Aken S.E., Riedmuller S.B., Feldblyum T.V., Cho J.K., Quackenbush J., Sedegah M., Shoalbi A., Cummings L.M., Florens L., Yates F.R. III, Raine J.D., Sinden R.E., Harris M.A., Cunningham D.A., Preiser P.R., Bergman L.W., Valdya A.B., van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R., van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R., Valdya B.B., Venter J.C., Fraser C.M., Hoffman S.L., Gardner M.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gardner M.J., Hall N., Fung B., White O., Berriman M., Hyman R.W., Carlton J.M., Pain A., Nelson K.E., Bowman S., Paulsen I.T., James K Eisen J.A., Rutherford K., Salzberg S.L., Craig A., Kyes S., Chan M.S., Nene V., Shallom S.J., Suh B., Peterson J., Angiuoli S., Pertea M., Allen J., Selengut J., Haft D., Mather M.W., Vaidya A.B., Martin D.M., Fairlamb A.H., Fraunholz M.J., Roos D.S., Ralph S.A., McFadden G.I., Cummings L.M., Subramanian G.M., Mungall C., Commings L.M., Commings L.M., Subramanian G.M., Mungall C., Commings L.M., Commings L.M., Subramanian G.M., Mungall C., Commings L.M., Commings L.M., Commings L.M., Subramanian G.M., Mungall C., Commings L.M., Commings L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plasmodium yoelii yoelii.
Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     McFadden G.I., Cummings L.M., Subramanian G.M., Mungall C., Venter J.C., Carucci D.J., Hoffman S.L., Newbold C., Davis R.W., Fraser C.M., Barrell B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE=22255705; PubMed=12368864;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hypothetical protein.
ORFNames=PF14 0120;
Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-17XNL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hypothetical
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01-MAR-2003
                                                                                                                                                                  parasite Plasmodium yoelii yoeli
Nature 419:512-519(2002).
-1- CAUTION: The sequence shown
EMBL/GenBank/DDBJ whole gend
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=12368865;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=73239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=PY05481;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nature
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                                                                                                                                                                                                                                                                                           "Genome sequence and comparative analysis parasite Plasmodium yoelii yoelii.";
                                                                                                                                                                                                                                                                                                                                                                                                   Carucci D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genome sequence of the human malaria parasite Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                              preliminary data.
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                                                                                          AABL01001745;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       419:498-511 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SASQDISNYLN 11
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956 AA; 1
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    ll protein.
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                                                                                     EAA17511.1;
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Apicomplexa; Haemosporida; Plasmodium
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Last sequence update)
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                                                                                                                                                                                                                        here
    E24DA27C89E70495 CRC64
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                                                                                                                                                                                                                                                                           RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., RA Adams M.D., Celniker S.E., Li P.W., Hoskins R.A., Galle R.F., Ra Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., RA Amanatides P.G., Scherer S.E., Holt R.A., Zhang Q., Chen L.X., Baston G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., RA Batton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., RA Batton G.G., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Man K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Gabor G.L., RA Battin J.F., Agbayani A., An H.J., Andrews Pfannkoch C., Baldwin D., Battin J.F., Agbayani A., An H.J., Andrews Pfannkoch C., Baldwin D., Battin J.F., Agbayani A., An H.J., Andrews Pfannkoch C., Baldwin D., Barkottier P., Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I., Ra Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P., Ra Borkova D., Botchan M.R., Bouck J., Brokstein P., Brokteir P., Ra Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P., Ra Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P., Ra Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P., Ra Cherry J.M., Cawley S., Dahlke C., Perrac C., Ferriera S., Fleischmann W., Rosler C., Gebrate M., Glasser K., Goldson K., Doup L.B., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P., Ra Lager C., Gabrielian A.B., Garg N.S., Gelbart W.M., Glasser K., Ra Harris M.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J., Harris M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A., Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A., Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A., Li J., Li Z., Liang Y., Lin X., Liu X., Mattei B., McCheck H., McLeod M.P., McHereii A., Mchender R., Noshreti A., Mchender R., Noshreti A., Mchender R., Mchender R., Mchender R., Mchender R., Stenhum J., Ketchum K.A., Pala B., Sara B., Scheler F., Shen H., Ra Mary L., Mang A., Wang X., Mang X., Mang X., Ma
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Best Local
MEDLINE-22426065; PubMed=12537568;

MEDLINE-22426065; PubMed=12537568;

Celniker S.E., Wheeler D.A., Kronmiller B., Carlson J.W., Halpern A.

Celniker S.E., Wheeler D.A., Kronmiller B., Carlson J.W., Hodgson A.,

Patel S., Adams M., Champe M., Dugan S.P., Frise E., Hodgson A.,

George R.A., Hoskins R.A., Laverty T., Muzny D.M., Nelson C.R.,

Pacleb J.M., Park S., Pfeiffer B.D., Richards S., Sodergren E.J.,

Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.G., Venter Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.M.;
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Drosophila melanogaster (Fruit fly).
Bukaryota; Metazos, Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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05-JUL-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q7KTP3
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2; Mismatches
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Zhu X., Smith H.O.,
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Best Local
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AAS64640;
01-APR-2004
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MEDLINE=20196006; PubMed=10731132;
Adams M.D., Celniker S.E., Holt R.A., Evans C.A.
Amanatides P.G., Scherer S.E., Li P.W., Hoskins
George R.A., Lewis S.E., Richards S., Ashburner
                                                                                                                                                        Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                          CG18251-PC.
MSP-300 OR CG18251.
Drosophila melanogaster
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"The transposable elements of the a genomics perspective.";
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Lewis S.E.;
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IPR003900; KID repeat.
IPR011036; PH related.
IPR002017; Spectrin.
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50; SPEC; 44.
6190; CYTOCHROME C; U
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72.7%;
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44477BA8FC38667B CRC64;
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  Evans C.A., Gocayne J.D.
., Hoskins R.A., Galle R.
Ashburner M., Henderson
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RA Dodson K., Dough L.B., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dorbin K.J., Evangelista C.C., Perraz C., Perrara S., Fleischmann W.,
RA Fosler C., Gabrielian A.B., Garg N.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Gulan P., Harris M.
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Gulan P., Harris M.
RA Hostin D., Houston K.A., Howland T.J., Wei M.H., Ibegwam C.,
RA Hostin D., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Mcimel B.E., Moy M., Murphy B., Murphy L., McPherson D.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA Spier E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,
RA Sylirskas R., Tector C., Turner R., Venteer E., Wang A.H., Wang X.,
RA Wang Z.Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Williams S.M., WoodageT, Worley K.C., Wu D., Yang S., Yao Q.A., Ye J.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou S., Zhu S., Smith H.O.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou S., Zhu X., Smith H.O.,
RA Glbbs R.A., Myers E.W., Rubin G.M., Venter J.C.,
RT. "The genome sequence of Drosophila melanogaster.",
                                                                                                                                            SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINB=22426070; PubMed=12537573;
Medlinb=22426070; Medlinb=22537573;
Medlinb=225
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Gibbs R.A., Myers E.W., Rubi
"The genome sequence of Dros
Science 287:2185-2195(2000).
                        flyBase;
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                                                               SEQUENCE FROM
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(SEP-2002)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of the
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                                                                                                                                 3:RESEARCH0084-RESEARCH0084 (2002)
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                                                               N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drosophila melanogaster euchromatic genome:
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the
EMBL/GenBank/DDBJ
                                                                                                                                                                                                Drosophila melanogaster euchromatin
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   databases
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Pfeiffer B.D.,
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RESULT 32

OPWMT8

ID Q9WMT

AC Q9VMT

AC Neople

AC Neople

AC ADMINI

A
                                        RA Addmen M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Addmen M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Addmen M.D., Celniker S.E., Holt R.A., Evans C.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S.Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.H., Blazej R.G., Change M., Pfeiffer B.D.,
RA Barandon R.C., Rogers Y.H., Blazej R.G., Change M., Pfeiffer B.D.,
RA Ballew R.M., Dayle C., Baxter B.G., Helt G., Nelson C.R., Gabor G.L.,
RA Barlis K.C., Basu A., Baxter B.G., Helt G., Nelson C.R., Gabor G.L.,
RA Borkova D., Botchan M.R., Bouck J., Bayraktaroglu L., Beabley B.M.,
RA Besson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Bortis K.C., Busem D.A., Butler H., Galeu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C.,
RA Harris N.L., Harvey D., Heiman T.J., Herrandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Hernandez J.R., Houck J.,
RA Kimmel B.E., Ködira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Woshrefi A.,
RA Melson D.R., Nelson K.A., Nixon K., Musskern D.R., Pacleb J.M.,
RA Melson D.R., Nelson K.A., Nixon K., Musskern D.R., Pacleb J.M.,
RA Mendry C., Milshina N.V., Mobarry C., Morris J., Pari V., Reese M.G.,
RA Mang Z.Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Spier E., Spradling A.C., Stapleton M., Stropski M.P., Smith T.,
RA Spier E., Spradling A.C., Stapleton M., Stropski M.P., Smith T.,
RA Spier E., Saran M., Zhang G., Zhao Q., Xe., Ye. J.,
RA Hell R.M., Smith H.O.,
RA Spier R.M., Spier R.M., Shill M., Smith H.O.,
RA Spier R.M.,
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=Msp-300; ORFNames=CG18251;
Drosophila melanogaster (Fruit fly).
Eukaryota, Metazoa, Arthropoda; Hexapoda; Insecta; Prerygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [6]
SEQUENCE
FlyBase;
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01-OCT-2002 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
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EMBL; AE003608; AAS6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CG18251-PB
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01-MAY-2000
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   SEQUENCE
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NCE 7500 AA; 8617
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8; Conser
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72.7%;
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26,
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Last annotation update)
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Pred. No. 1.4e
1; Mismatches
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RESULT
Q96SA9
ID Q9
AC Q9
DT 01
DT 01
DT 01
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Best Local S
Matches 8
                Q96SA9;
Q96SA9;
01-DEC-2001
01-DEC-2001
01-MAR-2004
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Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Misra S., Crosby M.A., Mungall C.J., Milburn G.H., Prochnik S.E.
Frace Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P.
Bettencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
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"The transposable elements of the Drosophila mea a genomics perspective.";
Genome Biol. 3:RESEARCH0084-RESEARCH0084(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Celniker S.E., Wheeler D.A., Krommiller B., Carlson J.W., Halpern A., Patel S., Adams M., Champe M., Dugan S.P., Frise E., Hodgson A., George R.A., Hoskins R.A., Lavertty T., Muzny D.M., Nelson C.R., Pacleb J.M., Park S., Pfeiffer B.D., Richards S., Sodergren E.J., Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.G., Venter C., Weinstock G., Scherer S.E., Myers E.W., Gibbs R.A., Rubin G.M.; "Finishing a whole-genome shotgun: release 3 of the Drosophila melanogaster euchromatic genome sequence."; Genome Biol. 3:RESEARCH0079-RESEARCH0079(2002).
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Anti-streptococcal/anti-myosin immunoglobulin kappa
                                                                                                                                                                                                                                                                                                                             Pfam; PF00307; CH; 2.
Pfam; PF00435; Spectrin; 35.
SMART; SM00033; CH; 2.
SMART; SM00150; SPEC; 44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=22426065; PubMed=12537568; Celniker S.E., Wheeler D.A., Kronm
                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                           GO; GO:0007498; P:mesoderm developm
InterPro; IPR001715; Calponin-like.
InterPro; IPR000345; CytC heme BS.
InterPro; IPR002017; SpecErin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           FlyBase;
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HSSP; Q15149; 1MB8.
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                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                    PS50021; CH; 2.
PS50021; CH; 2.
PS00190; CYTOCHROME C; UNKNOWN 1.
PS00190; CYTOCHROME C; UNKNOWN 1.
PS50021; CH; 2.
                                                                                                                                                        SLSQDIESYLN 6860
                                                                                                                                                                                       SASQDISNYLN 11
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                1 (TrEMBLrel.
1 (TrEMBLrel.
4 (TrEMBLrel.
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                                                                                                                                                                                                                     Conservative
                                                                               PRELIMINARY;
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                                                                                                                                                                                                                                      72.7%;
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19,
26,
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                                                                                                                                                                                                                                                                                                                                                                                                                                             development;
                                                Created)
                                                                                                                                                                                                                     Score 40; DB
Pred. No. 1.4e
1; Mismatches
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                                                                               107
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                                                                                                                                                                                                                                                    DB 2;
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., Rubin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     databases.
                                                                                                                                                                                                                                                    Length 7735;
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R.A.,
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PESULT 34

QPUL77

ID U97

ID U97

AC QPUL7

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MYOSS

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RN (1)

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InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
NON_TER 107 107
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Q9UL77;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Myosin-reactive immunoglobulin light chain variable
                          PROSITE;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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J. Immunol. 161:2020-2031(1998).
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Adderson E.E., Shikhman A.R., Mard K.E., Cunningham M.W.;
"Molecular analysis of polyreactive monoclonal antibodies from rheumatic carditis; human anti-N-acetylglucosamine/anti-myosin
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  SEQUENCE
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PIR; S34083; S34083.
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                                                                                                                                                                                                                                                                                                                                                                                Wu X., Liu B.,
Young D.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
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n; PF00047; 19; 1.
RT; SM00406; IGv; 1.
reso835; IG_1KE; 1
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IPR003596; Ig_v.
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Pred. No.
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  C06681716C4D16F3 CRC64;
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InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
Pfam; PP00047; Ig; 1.
SMART; SM00406; IGv; 1.
Immunoglobulin V region; Signal.
SIGNAL 1 22
CHAIN 23 117 Ig ka
DOMAIN 23 45 Frame
Q9X556;
Q9X556;
01-NOV-1999
01-NOV-1999
01-MAR-2004
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SEQUENCE
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
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P01641;
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MEDLINE=81064681; PubMed=6777049;
Max E.E., Seidman J.G., Miller H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ig kappa chain V-V region MOPC 173B Mus musculus (Mouse).
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                                                                                                                                                                                                                                                                                                                                                                                      or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cell 21:793-799(1980).
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int of kappa immunoglobulin
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MEDLINE=22550857; PubMed=12663927; DOI=10.1126/science.1080613;
Paulsen I.T., Banerjel L., Myers G.S.A., Nelson K.E., Seshadri R.,
Read T.D., Fouts D.E., Eisen J.A., Gill S.R., Heidelberg J.F.,
Tettelin H., Dodson R.J., Umayam L.A., Brinkac L.M., Beanan M.J.,
Daugherty S.C., DeBoy R.T., Durkin S.A., Kolonay J.F., Madupu R.,
Nelson W.C., Vamathevan J.J., Tran B., Upton J., Hansen T., Shetty Khouri H.M., Utterback T.R., Radune D., Ketchum K.A., Dougherty B.A
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GO; GO:0004177; F:aminopeptidase activity; IEA.
GO; GO:0004197; F:cysteine-type endopeptidase activity;
GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
InterPro; IPR004134; Peptidase CIB.
InterPro; IPR000169; Pept cys acsite.
Pfam; PP03051; Pept C1-like; 1.
PROSITE; PS00139; THIOL_PROTEASE_CYS; UNKNOWN_1.
TIGR; EP0302; -...
GO; GO:0004177; F:aminopeptidase activity; IEA.
GO; GO:0004197; F:cysteine-type endopeptidase activity;
GO; GO:0006497; F:cysteine-type endopeptidase activity;
GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
InterPro; IPR004134; Peptidase CIB.
InterPro; IPR004134; Peptidase CIB.
Pfam; PF03051; Pept C:1-like; 1.
PfRSF; PIRSF005700; PepC; 1.
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01-JUN-2003 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
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                                                                                                                                                                                                    Science 299:2071-2074(2003).
EMBL; AE016947; AA080165.1; -.
HSSP; Q13867; 2CB5.
MEROPS; CO1.086; -.
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Enterococcus faecalis (Streptococcus faecalis).
Bacteria; Firmicutes; Lactobacillales; Enteroco
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                                                                                                                                                                                                                                              Q8EV69 PRELIMINARY; PRT; 1093 AA. Q8EV69; Q0EV69; O1-MAR-2003 (TrEMBLrel. 23, Created) O1-MAR-2003 (TrEMBLrel. 23, Last sequence update) O1-MAR-2003 (TrEMBLrel. 23, Last annotation update) Hypothetical protein MYPE6990. OrderedLocusAmmes-MYPB6990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=DSM 1728;
MEDLINE=20479972; PubMed=11029001;
RUEDD A., Graml W., Santos-Martine;
Ruepp A., Frishman D., Stocker (Mewes H.-W., Frishman D., Stocker (Mewes H.-W., Frishman D.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 20, 01-MAR-2003 (TrEMBLrel. 25, 01-OCT-2003 (TrEMBLrel. 25, Hypothetical protein Ta1450, 0rderedLocusNames=Ta1450;
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EMBL; AL445067; CAC12570.1; -
GO; GO:0003824; F:catalytic ac
GO; GO:0008152; P:metabolism;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9HI92;
01-MAR-2001
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MEDIINE=22354719; PubMed=12466555;
Sasaki Y., Ishikawa J., Yamashita A., Oshima K., Kenri '
Yoshino C., Horino A., Shiba T., Sasaki T., Hattori M.;
"The complete genomic sequence of Mycoplasma penetrans,
intracellular bacterial pathogen in humans.";
                                                                                                                                                                                                            Mycoplasma penetrans. Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR000873; AMP-bind. Pfam; PF00501; AMP-binding; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The genome sequence of acidophilum.";
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                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                    CBI_TaxID=28227;
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an D., Stocker S., Lupa
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., Stocker S., Lupas A.N., B
the thermoacidophilic scave
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Pred. No.
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Best Local Similarity 54.:
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Carlton J.M., Angiuoli S.V., Suh B.B., Kooij T.W., Pertea M., Silva J.C., Ermolaeva M.D., Allen J.E., Selengut J.D., Koo H.L., Peterson J.D., Pop M., Kosack D.S., Shunway M.F., Bidwell S.L., Shallom S.J., van Aken S.E., Riedmuller S.B., Feldblyum T.V., Cho J.K., Quackenbush J., Sedegah M., Shoaibi A., Cummings L.M., Florens L., Yates F.R. III, Raine J.D., Sinden R.E., Harris M.A., Cunningham D.A., Preiser P.R., Bergman L.W., Vaidya A.B., van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R., Salzberg S.L., Venter J.C., Fraser C.M., Hoffman S.L., Gardner M.J., Carucci D.J.;
                                                                                                                                                                                                                                                                                                                                                                               EMBL; AAB
SEQUENCE
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Erythrocyte membrane protein PFEMP3.
Name=PV06125;
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Q7PDL3;
Q1-MAR-2004 (TrEMBLrel. 26,
Q1-MAR-2004 (TrEMBLrel. 26,
Q1-MAR-2004 (TrEMBLrel. 26,
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EMBL; AP004173; BAC44491.1; -.
Complete proteome; Hypothetical protein.
COMPLET 1093 AA; 119056 MW; 3F2373983DC1CF79 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Genome sequence and comparative analysis of the model rodent malaria parasite Plasmodium yoelii yoelii.";
Nature 419:512-519(2002).

-i- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is preligious.
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Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
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Carlton J.M., Angiuoli S.V.,
                                                                                                                                                                                                                                                                                                                                                                  preliminary data.
L; AABLO1002038; EAA18281.1; -.
UENCE 1665 AA; 191206 MW; 03BB304FF802057C CRC64;
                                                                                                                      305 SEQDIENYLN 314
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	The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention	Claim 4; Page 142; 183pp; Japanese.	New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therap of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.	WPI; 2001-266143/27.	Hanai N, Shitara K, Nakamura K, Niwa R;	(KYOW) KYOWA HAKKO KOGYO KK.	30-SEP-1999; 99JP-00278291. 06-APR-2000; 2000JP-00105088.	29-SEP-2000; 2000WO-JP006774.	05-APR-2001.	WO200123432-A1.	Mus musculus.	<pre>Ganglioside; GD3; complementarity determining region; CDR; cancer.</pre>	Ganglioside GD3 specific antibody related peptide SBQ ID NO:	03-JUL-2001 (first entry)	AAB81983;	JT 1 1983 AAB81983 standard; peptide; 7 AA.	ALIGNMENTS	30 81.1 213 3 AAG49869	30 81.1 196 3 AAG24378	30 81.1 196 3 AAG49870	30 81.1 182 3 AAG24379	30 81.1 182 3 AAG49871	30 81.1 167 6 ABU27913	30 81.1 83 4 AAU59057	30 81.1 56 5 ABP03340	30 81.1 23 6 ABO12747	30 81.1 14 4 AAM97437	31 83.8 347 6	31 83.8 347 3 AAY97205	31 83.8 277 6 ABU25460	32 86.5 481- 5 ABB93504	32 86.5 36 8 ADO10396	32 86.5 36 3 AAY69824
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a peptide associated with the anti- ganglioside GD3 antibody
                                                                                                                Ganglioside
                                                                                                                                                                           03-JUL-2001
                                                                                                                                                                                                                                   AAB81988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 7 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                cancer
                                                        Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                        AAB81988 standard;
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                                                                                                             GD3 specific antibody related protein SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
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06-APR-2000; 2000JP-00105088.
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06-APR-2000; 2000JP-00105088.
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                                                                                                                            Hanai N,
                                                                                                                                                                                 (KYOW ) KYOWA HAKKO KOGYO KK.
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                                                                                                                         Shitara K,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GD3;
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New human type complementation-determining region-transplanted and derivatives against ganglioside GD3, useful in diagnosis a

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Best Local :
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                                                                                                                                   The present invention describes a monoclonal antibody which can react specifically with ganglioside 33. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                             New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ganglioside; GD3;
                                                                                              Sequence 108
                                                                                                                                                                                                        Claim 11; Page 174-175; 183pp; Japanese.
                                                                                                                                                                                                                                   activity in cancer.
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                                                                                                                                                                                                                                                                                                                                  Hanai N,
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06-APR-2000; 2000JP-00105088.
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                                         Similarity 7; Conserv
YSSNLHS
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100.0%; Pred. No.
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Pred. No. 9.1
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                                                      9.1;
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RESULT 6
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Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents i combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ganglioside
                           WO200278739-A1
                                                                                                                     Ganglioside
                                                                                                                                                                    Modified ganglioside GD3 antibody associated protein #6
                                                                                                                                                                                                                    04-FEB-2003
                                                                                                                                                                                                                                                                                                              ABU11013 standard;
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                                                                                                                       GD3;
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                                                                                                                     anti-ganglioside
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Pred. No. 9.1;
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Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
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       WPI; 1993-095510/12
                                                    Shitara K,
                                                                                                                                                                                                  18-SEP-1992;
                                                                                                                                                                                                                                               24-MAR-1993
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Promoter; variable; region; rat; immunoglobulin; heavy; H; chain; humanised; chimeric; antibody; expression vector.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rat immunoglobulin L chain varible region of pKM641LA2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-MAR-2003
12-JUL-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR33257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR33257 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-MAR-2001; 2001JP-00097483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                   18-SEP-1991;
                                                                                                                                                                                                                                                                                                                                                                                                               Peptide
                                                                                                   (KYOW ) KYOWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fragment,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 YSSNLHS 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YSSNLHS 56
                                                 Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , immunocompetent cell activators or/and antitumor agents applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002WO-JP003170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (revised)
(first entry)
                                                                                                   HAKKO
                                                                                                                                                91JP-00238375
                                                                                                                                                                                                92EP-00116026
                                                                                                                                                                                                                                                                                                                                         21. .12
/note=
                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                      /note= "Signal peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein; 128
                                                                                                   KOGYO CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kanazawa
                                                    Hasegawa M,
                                                                                                                                                                                                                                                                                                                                         "Mature protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۰,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 37; DB
Pred. No. 9.1
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ç
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                                                 Miyaji H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 9.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Z
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                                                    Kuwana
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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RESULT 9
AAR53340
ID AAR5
XX AAR5
AC AAR5
XX AAR5
XX AAR5
XX WOON
KW WOON
KW EXPI
KW CONB
XX Key
FH Rey
FH Pept
FT Pept
FT Pept
FT Pept
XX AU93
XX 17-M
XX 17-
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Best Local (
Example 2 describes the construction of the vector pChi641HA1 for chimeric human antibody H chain expression. mRNA from mouse anti-GD3 monoclonal Ab XM641-producing cells was isolated and KM641 H and L chain cDNAs isolated. The base sequences of the Ig variable regions in KM641 H chain cDNA (pKM641HA3) and KM641 L chain cDNA (pKM641HA2) are given in AAQ45438-39. A KM641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKM641HA3 to a vector for chimeric human Ab H chain expression using the
                                                                                                                                                                                                                                                                                              Humanised cytocidal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Monoclonal antibody; Ab; ganglioside GM2; chimera; chimeric antibody; expression vector; heavy; light; chain; hypervariable region; CDR; constant region; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Humanised chimeric antibody prodn. against ganglioside cancers, such as melanoma, neuroblastoma, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAQ33258
                                                                                                                                                                                                                                                                                                                                                                           N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AU9346181-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KM641 H chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR53340 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 6;
                                                                                                                                                                                                                                          Example 2; Page 115-116; 191pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nakamura K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR53340;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vectors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           were used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (KYOW ) KYOWA HAKKO KOGYO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequences given in AAR33256-57 represent rat heavy and light chain variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression rectors. In these humanised antibodies none of the amino acids of the notent than the construction of the sequence of the manine acids of the notent than animal Ab variable region have been changed. (Updated on 25-MAR-1003 recover by first)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to correct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 YSSNLHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7;
                                                                                                                                                                                                                                                                                                                                                                           AAQ45438.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Page 30-31; 63pp; English
                                                                                                                                                                                                                                                                                              antibody specific effect on cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Koike M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92JP-00238452.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93AU-00046181.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .20
/label= sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein; 128 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    field.)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shitara K,
                                                                                                                                                                                                                                                                                              for ganglioside GM2 - used for pauch as melanoma, neuroblastoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 37;
Pred. No.
                                                                                                                                                                                                                                          English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kuwana
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 128;
                                                                                                                                                                                                                                                                                                                          used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hasegawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         these proteins
                                                                                                                                                                                                                                                                                              producing a
and glioma.
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RESULT 11
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                                                                                                                 Query Match
Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                         This immunoglobulin region was isolated from pKM641LA2.A methionine codon, presumably the initiation codon ATG, was found in the vicinity of the 5' terminus and the sequence has a full length leader sequence. The chimeric human antibodies are useful in the treatment of cancer, especially that which is of neural ectodermal origin. In contrast to
                                                                                                                                                                               prior art constructs based on mouse monoclonal antibodies, the chimeric human antibodies do not cause anti-mouse immoglobulin production. The chimeric human antibodies have a prolonged half-life and a reduced frequency of adverse effects when compared to mouse monoclonal antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus sp.
AAB01628;
                    AAB01628
                                                                                                                                                            Sequence 128 AA,
                                                                                                                                                                                                                                                                                         Example 1; Col 99; 188pp; English.
                                                                                                                                                                                                                                                                                                              Chimeric human antibody expression vectors.
                                                                                                                                                                                                                                                                                                                                               WPI; 1999-468416/39.
                                                                                                                                                                                                                                                                                                                                                                                                             07-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                  07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US5939532-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antibody; nucleotide; genomic; hypervariable region; chimeric;
light chain; amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       pKM641 LA2 immunoglobulin light chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY28368 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   synthetic DNAs given
                                                                                                                                                                                                                                                                                                                                                                                         (КУОМ ) КУОМА НАККО КОСУО КК.
                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity les 7; Conserv
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                                                                                           YSSNLHS 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128 AA;
                   standard;
                                                                        YSSNLHS 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
illarity 100.0%;
Conservative (
                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                   Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry
                                                                                                                                                                                                                                                                                                                                                                                                             93US-00116778
                                                                                                                                                                                                                                                                                                                                                                                                                                  95US-00483528.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein; 128
                   protein; 128
                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ä
                                                                                                                                                                                                                                                                                                                                                                   Kuwana Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAQ63439 and AAQ63440
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                Score 37; DB
Pred. No. 11;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 37; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                  Hasegawa M,
                                                                                                                           11;
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                                                                                                                                                                                                                                                                                                                                                                   Koike M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 128;
                                                                                                                                      Length 128;
                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                     Shitara
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                                                                                                                 Gaps
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AABB1994
ID AABB1
XX
AC AABB1
DT 03-JU
XX
Gangl
KW Gangl
KW Gangl
KW Cance
XX
XX
Synth
XX
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                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                            The present sequence is a murine immunoglobulin light chain variable region from plasmid KM-641. The coding sequence was used in the creation of an expression vector, along with the sequence for a human antibody, to produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side effects, such as the formation of anti-mouse immunoglobulin antibody and the rapid half-life of the immunoglobulins, do not occur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with ganglioside and human antibody constant region.
                                                                                              03-JUL-2001
                                                                                                                                                                                                                                                                                                        Sequence 128 AA;
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                                                Ganglioside;
                                                                     Ganglioside
                                                                                                                      AAB81994;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 14; Page 28-29; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shitara K, Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-SEP-1991;
18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-JUN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mouse; immunoglobulin; L chain; light chain; variable humanised antibody.
                                                                                                                                              AAB81994 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (КҮОМ ) КҮОМА НАККО КОСУО КК
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               humanised
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAA51004
                                                                                                                                                                                                          YSSNLHS
                                                                                                                                                                                                                                                        100.0%;
ilarity 100.0%;
Conservative 0
                                                                       GD3 specific
                                                GD3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91JP-00238375.
92EP-00116026.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99EP-00124345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= mature_immunoglobulin_light_chain_V_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= signal_peptide
21. .128
                                             complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hasegawa
                                                                       antibody
                                                                                                                                               128
                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                        Score 37; DB
Pred. No. 11;
0; Mismatches
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                                                                       related
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                                                                                                                                                                                                                                                                                 DB
                                                                     protein #3.
                                                                                                                                                                                                                                                                                  <u>س</u>
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                                                                                                                                                                                                                                                                                 Length 128;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            region; cancer;
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                                                                                                                                                                                                                                                          Gaps
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Synthetic

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RESULT 13
AAB81995
ID AAB81
XX AAB81
AC AAB81
DT 03-JI
XX Gang:
XX Gang:
XX Gang:
XX Gang
KW Gang
KW Gang
KW Canc
OS Synt
XX WO2(
XX WO2(
XX Synt
XX WO2(
XX W
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Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention describes a monoclonal antibody which can react specifically with ganglioside GDJ. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-APR-2001
New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy
                                                                             N-PSDB; AAF86901.
                                                                                                      WPI; 2001-266143/27.
                                                                                                                                                   Hanai N,
                                                                                                                                                                                                                                                                      30-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                     WO200123432-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ganglioside;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB81995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB81995 standard; protein; 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; Page 155-156; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAF86898.
                                                                                                                                                                                                   KYOWA HAKKO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YSSNLHS
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                                                                                                                                              Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GD3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GD3;
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                                                                                                                                                                                                                                                                      99JP-00278291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     specific antibody related protein #4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complementarity
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Pred. No. 11;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antibody;
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RESULT 14
AAB81997
ID AAB81
XX AAB81
XX AAB81
XX AAB81
XX Gangl
XX
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Query Match
Best Local S
Matches 7
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Best Local S
Matches 7
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                                                                                                                                                                  The present invention describes a monoclonal antibody which can react specifically with ganglioside 3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                         New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 128 AA;
                                                                                                Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ganglioside;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB81997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Page 157-158; 183pp; Japanese
                                                                                                                                                                                                                                                                                           Example 1; Page 161-162; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-APR-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001-266143/27.
DB; AAF86907.
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. Similarity 7; Conserv
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  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GD3 specific antibody related protein #6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GD3; complementarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KOGYO KK
                    100.0%;
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Score 37; DB
Pred. No. 11;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 37;
Pred. No.
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                    DB
. 11;
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11;
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                                             Length 128;
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     Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antibody;
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AABB1996
ID AABB1
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AC AAB81
DT 03-JU
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KW Gangl
KW Cance
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OS Synth
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AAB81978
ID AAB81
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                            New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                              AAB81996 standard;
                                                                                                                                                                                                                                                                         Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                             Example 1; Page 140; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-SEP-1999; 99JP-00278291
06-APR-2000; 2000JP-00105088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ganglioside; GD3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ganglioside GD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-JUL-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB81978 standard;
           Synthetic
                                          Ganglioside;
                                                               Ganglioside
                                                                                     03-JUL-2001
                                                                                                           AAB81996;
                                                                                                                                                                                                                                                                                                                                                                                    activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-266143/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-SEP-2000; 2000WO-JP006774
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                                                                                                                                                                                                                              Similarity 7; Conserv
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                                                                                                                                                                                                          YSSNLHS 7
                                                                                                                                                                                     SHINSSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Shitara K,
                                                               GD3
                                                                                                                                                                                                                               Conservative
                                          GD3; complementarity determining region; CDR; antibody;
                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99JP-00278291.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            specific antibody related protein SEQ ID NO:
                                                               specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complementarity determining region; CDR; antibody;
                                                                                                                             protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein;
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                                                               antibody related protein #5.
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Pred. No. 11;
0; Mismatches
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                                                                                                                                                                                                                                                  Length 128;
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RESULT 17
AABB1999
ID AABB1999
ID AABB1999
ID AABB1999
ID O3-JU
XX AABB1
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 128 AA;
                                                                                                                                                                                                                                    30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-JUL-2001
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06-APR-2000; 2000JP-00105088.
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                                                                     N-PSDB;
                                                                                                                                          Hanai N,
                                                                                                                                                                                                                                                                                                         29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                                                                                                                                                                                           05-APR-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cancer.
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                                                                                                                                                                                       (KYOW ) KYOWA HAKKO
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                                                                     2001-266143/27.
DB; AAF86913.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-266143/27.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SHTINSSA
                                                                                                                                        Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shitara K,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein; 128
                                                                                                                                                                                          KOGYO KK
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                                                                                                                                             Nakamura
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Pred. No.
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New human type complementation-determining region-transplanted and derivatives against ganglioside GD3, useful in diagnosis and

ed antibody. and therapy

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RESULT 18
AAB81993
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Matches 7
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Best Local Similarity
Matches 7; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                    The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                           New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
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                                                                                                       Sequence 128 AA;
                                                                                                                                       of the invention
                                                                                                                                                                                                                                                                               activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                     Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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                                                                                                                                                                                                                                             Example 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-SEP-2000; 2000WO-JP006774.
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)B; AAF86895.
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                                                                                                                                                                                                                                                                                                                                                                                                                   Shitara K,
                                                                                                                                                                                                                                           Page 153;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GD3
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                                                   100.0%;
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                                   0,
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                                                   Score 37;
Pred. No.
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Pred. No.
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                                   0;
                                                                  Length 128;
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                                   Indels
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                                                                                                                                                         exemplification
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                                 Gaps
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                                 0;
RESULT 20
AAB81998
ID AAB81
XX AAB81
XX AAB81
XX GAB81
XX GANG!
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AABB1992
ID AABB1
XX AABB1
XX AABB1
XX AABB1
XX Gangl
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XX Gangl
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Best Local Similarity
Matches 7; Conserv
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06-APR-2000; 2000JP-00105088
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB81992
 Synthetic
                                                                                   Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAF86892.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ganglioside;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-JUL-2001
                                                 Ganglioside;
                                                                                                                       03-JUL-2001
                                                                                                                                                         AAB81998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                         AAB81998 standard; protein; 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Page 150-151; 183pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (KYOW ) KYOWA HAKKO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       invention
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                                                                                                                                                                                                                                                                                                                                               100.0%;
ilarity 100.0%;
Conservative (
                                                                                     GD3 specific antibody related protein #7.
                                                 GD3; complementarity
                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99JP-00278291.
                                                                                                                                                                                                                                                                               76
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                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nakamura
                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                 Score 37; DB
Pred. No. 11;
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                                                                                                                                                                                                                                                                                                                                                     Mismatches
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                                                   determining region;
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The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human type complementation-determining region-transplanted antibody derivatives against ganglioside GD3, useful in diagnosis and therapy e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GD3 specific antibody related protein #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GD3; complementarity determining region; CDR; antibody;
0;
                                                                      Length 128;
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0,
Gaps
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CDR;

antibody;

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ABULIO3
ID ABULI
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XX Modif
XX Gangl
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
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06-APR-2000; 2000JP-00105088.
                  Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ganglioside GD3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modified ganglioside GD3 antibody associated protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-FEB-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABU11003 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 3; Page 164-165; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAF86912.
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                                                                                                                                                                                                                             KYOWA HAKKO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YSSNLHS 76
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                                                                                                                                                                        Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                  2002WO-JP003170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     anti-ganglioside GD3 antibody; tumour; melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein; 128
                                                                                                                                                                                                                             KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                                                              Kanazawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakamura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
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Pred. No.
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                                                                                                                                                                              Z,
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RESULT 22
AAR52865
ID AAR52865
AC AAR52
XX AAR52
AC AAR52
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Best Local Similarity
Matches 7; Conserv
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25-MAR-2003
09-SEP-1994
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                                                                                                                                                                                                      New target-binding polypeptide(s) used for diagnosis, etc. - have stable core polypeptide region with at least one target-binding covalently attached, opt. mutated to alter specificity, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Monoclonal antibody N10; target binding polypeptide; scFv; scFv; single chain antibody; protein secretion; FLAG; Escherichia coli; antibody engineering; humanized antibody; influenza virus; neuraminidase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 128 AA;
                                                                                                                                                           Disclosure;
                                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                      Hudson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unidentified
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-SEP-1993;
                                                                                                                                                                                                                                                                                                                                               WPI; 1994-135515/16.
                                                                                                                                                                                                                                                                                                                                                                                             Power BE,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YSSNLHS
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                                                                                                                                                                                                                                                                                                                                                                                             Lah M, Ko
Colman PM;
                                                                                                                                                        Page 41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                           English.
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                                                                                                                                                                                                                                                                                                                                                                                                                        Irving RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                        Atwell JL,
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An scFv fragment of NC10 (a monoclonal antibody that recognises influenza virus N9 neuraminidase) was expressed in Escherichia coli. The N-terminal Pells signal peptide directed the scFv fragment into the periplasm where it became associated with the insoluble membrane fraction. An octapeptide

fused to the

C-terminus of

BCFV

and used

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RESULT 23
ADB62374
ID ADB62374
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XX AD622
XX Rat p
XX Rat;
KW Chron
XX Rattur
PN W0200
XX Rattur
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YX 14-AL
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The invention discloses a composition comprising two or more isolated rat CC or human polynucleotides or a polynucleotide which represents a fragment, CC derivative or allelic variation of the nucleic acid sequence. Also CC claimed are a vector comprising the novel polynucleotide, a host cell CC comprising the vector, a method for identifying a nucleotide sequence CC which is differentially regulated in an animal subjected to pain and a CC kit to perform the method, an array, a method for identifying an agent CC that is differentially expressed in neuronal tissue of a first animal CC subjected to pain, a method for identifying a compound which regulates CC the expression of a polynucleotide sequence the expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the polynucleotides, a method for producing a pharmaceutical composition, a compound for identifying a compound useful in treating composition on a pharmaceutical composition comprising the one or more or more or the polypoptides given in the composition or mathod for identifying a compound useful in treating composition or more or their antibodies. The polynucleotide or the compound that composition comprising the one or more compound that activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; Page; 1017pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New composition comprising preparing a medicament for
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01-NOV-2001; 2001US-0346382P
26-NOV-2001; 2001US-0333347P
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YTSNLHS 214
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or more isolated polypeptides, useful ating pain in an animal.
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                                                                            acid sequence is useful in the detection and/or amplification of nucleic acid sequence, particularly to identify Lactococcus lactis or related species. The proteins of the invention are useful for the biosynthesis or biodegradation of a composition of interest. The invention helps research in lactic bacteria, particularly useful in the production of yogurt and cheese. Note: The sequence data for this patent is based on equivalent patent w0200177334 (published 18-0CT-2001) which is available in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences. (Updated on 29-AUG-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pain (e.g. spinal segmental nerve injury (Chung), chronic constriction injury (CCI) and spared nerve injury (SNI) in an animal (e.g. gene therapy). The sequence presented is a rat protein (shown in Table 2 of the specification) which is differentially expressed during pain. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at
                                                      Sequence 368 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biosynthesis; biodegradation; lactic bacterium;
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16-MAY-2002
                                                                                                                                                                                                                     The present invention is related to a Lactococcus lactis nucleotide sequence (ABA90521) and related proteins (ABB53300-ABB55621). The nu
                                                                                                                                                                                                                                                                                                      New nucleotide sequence useful in the identification or Lactococcus
                                                                                                                                                                                                                                                                                                                                WPI; 2002-043418/06
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of a microbe, using the gyrase gene as the index. The method involves the use of PCR primers to amplify DNA from the microbe, which is then identified or detected depending on its base sequence. The method can be used to classify and identify an unidentified microbe strain rapidly and with high precision. The present sequence represents a gyrase protein
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                              FR2771011-A1
                                                                                                     Human immunodeficiency virus 1.
                                                                                                                                                                               Cytostatic; human immunodeficiency virus gp41 envelope protein; antibody; antiviral; vaccine; human; pathogenic retrovirus; immunodominant zone;
                                                                                                                                                                                                                                                            HIV-1 gp41 envelope protein amino acids 628-663 mutant
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                                                                                                                                                                                                                                                                                                                                                                       AAY69824;
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                                                                                                                                                            mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                     peptide; 36 AA
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3.1e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
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RESULT 27
AD010396
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Matches 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                           HIV1; glycoprotein 41; gp41; retrovirus; membrane receptor; immune response; envelope protein; retroviral infection; HIV FIV infection; anti-HIV; virucide; cytokine; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HIV1 glycoprotein 41 (gp41) mutant peptide #28.
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                                                                (MYME-) MYMETICS
                                                                                                                        22-JUL-2002; 2002US-00198938
                                                                                                                                                                                  22-JUL-2002; 2002US-00198938.
                                                                                                                                                                                                                                             22-JAN-2004
                                                                                                                                                                                                                                                                                                 US2004014046-A1
                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                       Human immunodeficiency virus 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADO10396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADO10396 standard; peptide; 36 AA.
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les 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HIV infection;
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RESULT 28
AB93504
AB93504
AB93504
AC AB99
XX AB99
XX Herk
XX Herk
XX Herk
XX Herk
XX WO2(
XX O7-1)
XX O7-1
XX U7-1
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Matches 5
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                                                                                                                                                                                                               Identifying plant target proteins for herbicidally active compounds, comprising aligning and comparing nucleic acid or amino acid sequence from plant with nucleic acid or amino acid sequences from non-plant
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                                                                                                           Claim 5; SEQ ID NO 2715;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Weidler
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Pred. No.
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28;
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from non-plant
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The invention relates for herbicidally activ

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to identifying target proteins ve compounds, comprising alignin

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(ABB90790-ABB94016) comparing

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RESULT 29
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Best Local S
Matches 6
The invention discloses a nucleic acid construct comprising, in the 5' to 3' direction, a cyst and root knot nematode responsive promoter and, optionally, a heterologous nucleic acid positioned downstream from the promoter. The cyst and root knot nematode responsive promoter preferably comprises the Nicotiana endo-1,4-beta-glucanase (Edase), Ntcel7, promoter and, optionally, a heterologous nucleic acid positioned downstream from the promoter and operably associated with it, where the heterologous nucleic acid encodes a product disruptive of nematode attack. Also claimed is a plant cell transformed with the construct making a transformed plant, comprising regenerating a plant from the construct, an Agrobacterium tumefaciens cell containing the construct comprising a Ti plasmid, a microparticle carrying the construct, a plant cell protoplast transformation of a plant cell, a plant cell protoplast comprising the construct and a seed obtained from the transgenic plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amino acid sequences from non-plant organisms using suitable search parameters, where plant sequences having an E-value greater by a factor of 3 than the E-value of most similar non-plant sequences are selected. The polypeptides or nucleic acids encoding them are useful for the polypeptides or microscipt second them are useful as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nucleic acid construct for controlling cyst and root knot nematodes, comprises a cyst and root knot nematode responsive promoter and optionally a heterologous nucleic acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tobacco; cyst and root knot nematode responsive promoter; promoter; endo-1,4-beta-glucanase; EGase; Ntcel7; nematode; plant; Ti plasmid; microparticle; ballistic transformation; protoplast; transgenic plant; insecticidal protein; crystal protein; toxic; insect; dicot; monocot;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N. tabacum Ntcel2 protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nicotiana tabacum.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; SEQ ID NO 2; 32pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-JAN-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2003-810836/76.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADD14910
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RESULT 30
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The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation; (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The heterologous nucleic acid segment may be a gene encoding for an insecticidal protein, preferably a Bacillus thuringiensis crystal protein toxic to insects, but may be a product toxic to the plant cell. The transgenic plant is a dicot or monocot, preferably a tobacco (Nicotiana tabacum) plant. The construct is used for making a transgenic plant, such as a tobacco plant, that is resistant to cyst and root knot nematodes. An advantage of the invention is that two or more promoters can be daisy-chained to a single structural gene. The sequence presented is the N. tabacum Ntcel2 protein.
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06-SEP-2001; 2001US-00948993.

25-OCT-2001; 2001US-0342923P

08-FEB-2002; 2002US-00072851.

06-MAR-2002; 2002US-0362699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
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DB; ACA29330.
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6; Conserv
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Trawick JD,
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                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 53384; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         prokaryotic essential gene; cell proliferation; drug design.
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85.7%;
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Forsyth RA,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent to which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits the proliferation of an organism. The antisense nucleic acids are useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biosynthetic locus; biosynthesis; lipid A biosynthesis; acetyltransferase; glycosyltransferase; Beta-1,4-GalNAc transferase; Beta-1,3-galactosyltransferase; alpha-2,3-sialyltransferase; sialic acid synthase; CMP-sialic acid synthetase; mimic; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY97205;
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                                                                                                                                                                                                                                                                                                                                            Gilbert M, Wakarchuk
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22-DEC-2000
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                                                                                                                                                                                                                                                                                                                                                                                                            (CANA ) NAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 31;
Pred. No.
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A reaction mixture for the synthesis of a sialylated oligosaccharide

Claim 13;

Page 100-101; 120pp; English.

biosynthesis of ganglioside and ganglion reagents and as immunogen for producing

Novel glycosyltransferase polypeptides and polynucleotides useful biosynthesis of ganglioside and ganglioside mimics, as diagnostic

for

antibodies.

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RESULT 32
ABJ18486
ID ABJ18
XX ABJ18
AC ABJ18
AC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
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                                                                  New glycosyltransferases from Campylobacter, useful for synthesizing gangliosides and ganglioside mimetics, and in studying the pathogenesis mechanisms of organisms that synthesize ganglioside mimetics.
                                                                                                                                                                                                                                                                                                                                                             Gilbert M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-MAR-2001; 2001US-00816028.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Campylobacter jejuni.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ganglioside mimetics;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   galactosyltransferase; sialyltransferase; sialic acid synthase;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Campylobacter jejuni bifunctional sialtransferase cstII #7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABJ18486;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABJ18486 standard; protein; 347 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 347 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200274942-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CMP sialic acid synthetase; acetyltransferase; ganglioside synthesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                (CANA)
                                                                                                                                                                                                                                             2003-040554/03.
DB; ABT13673.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene therapy; acyltransferase; glycosyltransferase;
transferase; N-Acetylgalactosamine transferase;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                NAT RES COUNCIL CANADA
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                                                                                                                                                                                                                                                                                                                                                             Wakarchuk WW
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Pred. No.
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5.7e+02;
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Claim

5; Page 101; 107pp; English

83.8%;

Score

31;

ВB 6,

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RESULT 33
ABP80364
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Best Local Similarity
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                                                      The present invention relates to proteins from Neisseria gonorrhoeae. Also disclosed are the nucleic acid molecules encoding the proteins a antibodies that specifically bind to the proteins. The composition comprising the protein, nucleic acid or antibody is useful for the manufacture of a medicament for treating or preventing N. gonorrhoeae infection, this may be in the form of a vaccine or gene therapy. Sequences given in records ABP76736-ABP81046 represent nucleic acid molecules of the invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N. gonorrhoeae amino acid sequence SEQ ID 7258.
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Sequence 380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                     New protein from Neisseria gonorrheae, useful for the manufacture medicament for treating or preventing N. gonorrheae infection.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-MAR-2003
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                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 716; 815pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-FEB-2001; 2001GB-00003424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CHIR-) CHIRON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2003-058415/05.
DB; ABZ41334.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Masignani V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 31; DB Pred. No. 5.7e
2; Mismatches
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5.7e+02;
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                                                                                                   CC The present invention relates to oligonucleotides (see AAL26793-AAL34659)
CC encoding polymorphic variants of proteins related to amylases, amyloid CC proteins, angiopoietin, appoptosis related proteins, cadherin, cyclin, CC polymerase, oncogenes, histones, kinases, colony stimulating factors, CC interferons, interleukins, Cytochromes, kinesins, cytokines, CT or present sequence is a peptide encoded by one such oligonucleotide.
CC The present sequence is a peptide encoded by them may be used in the CC prevention, diagnosis and treatment of diseases associated with CC inappropriate expression of the proteins listed above. Disorders that may be prevented, diagnosed and/or treated include multifactorial diseases CC with a genetic component, such as autoimmune diseases (e.g. rheumatoid CC arthritis, multiple sclerosis, diabetes, systemic lupus erythromatosus CC and Grave's disease, inflammation, cancer (e.g. cancers of the bladder, CC brain, breast, colon and kidney, leukaemia), diseases of the nervous CC system and an infection of pathogenic organisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 71.4%;
Matches 5; Conservative
Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complement related protein; cytochrome; kinesin; cytokine; interferon; interleukin; G-protein coupled receptor; thioesterase; inflammation; multifactorial disease; autoimmune disease; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunosuppressive; immunostimulatory; antiinflammatory; cytostatic; neuroprotective; antimicrobial; gene the rapy; vaccine; amylase; cancer; amyloid protein; angiopoletin; apoptosis related protein; cadherin; cyclin; polymerase; oncogene; histone; kinase; colony stimulating factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Polymorphic nucleic acids encoding e.g. amylases, cyclins, polymerases, oncogenes and histones, useful for diagnosing and treating, e.g. cancer, autoimmune diseases and infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shimkets RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-DEC-1999; 99US-0173419P.
27-DEC-2000; 2000US-00173419.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human peptide #712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAM97437 standard; peptide; 14 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 3823; 4143pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2001-465210/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-DEC-2000; 2000WO-US035498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200147944-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nervous system disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-JAN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAM97437;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CURA-)
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                                                                          14
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81.1%; Score 30; DB
100.0%; Pred. No. 25
tive 0; Mismatches
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2; Mismatches 0;
                 DB 4;
25;
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                                                                                                                                                                                                                                                   The invention relates to a composite binding polypeptide comprising a first natural binding domain derived from a first natural binding polypeptide and a second natural binding domain derived from a second natural binding polypeptide, where the first and second natural binding polypeptide, where the first and second natural binding polypeptide, where the first and second natural binding polypeptide where the polypeptide binds to a target differing from the natural target of both the first and second binding polypeptides. The invention also relates to a chimeric polypeptide comprising a binding polypeptide cited above and a biological effector domain, a library of natural binding domains, a library of natural binding domains, a library of natural zinc finger nucleic acid binding domains comprising a linker catached to it, a method for selecting a binding polypeptide capable of binding to a target site and a method for designing a composite binding polypeptide. The methods and compositions of the present invention are useful for designing sequence-specific binding proteins for regulation of gene expression in the fields of molecular biology. They can also be used for the diagnosis and treatment of autoimmune disorders, and as research tools and in transgenic animals. This sequence represents a human zinc finger DNA binding domain used in the scope of the invention
                                                                    Best Loc
Matches
                                                                                                                                  Query Match
                                                                                                                                                                                                   Sequence 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New composite binding zinc finger polypeptide, useful for designing sequence-specific binding proteins regulating gene expression in the fields of molecular biology, and for the diagnosis and treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human zinc finger DNA binding domain #1046
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 2; Page 93; 157pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      autoimmune disorders
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       04-APR-2001; 2001GB-00008491.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-DEC-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Composite binding polypeptide; zinc finger nucleic acid binding autoimmune disorder; immunosuppressive; zinc finger DNA binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-AUG-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SANG-) SANGAMO BIOSCIENCES INC
                                                                                                      Local
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      2 SSNLHS 7
                                                                       6
                                                                                                      Similarity
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                                                                                                                                                                                                   ΑA;
                                                                    Conservative
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                                                                                                      81.1%;
100.0%;
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                                                                                                   Score 30;
Pred. No.
                                                                       <u>,</u>
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                                                                    Mismatches
                                                                                                      DB
43;
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ABP03340
III ABP0340
XX ABP0
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X
                                                                                                                                                                                            syndrome associated with ORFX associated disorder. OFFX polymacleotide sequences can be used in gene therapy. ORFX sequences can be used in the treatment of cancer, hyperproliferative disorders, cirrhosis of liver, psoriasis, benign tumours, keloid, degenerative disorders haemorrhage, costeoarthritis, neurodegenerative disorders disorders related to organ transplantation, cardiovascular diseases, diabetes mellitus, systemic transplantation, revious costeoarthritis, neurodegenerative disorders mellitus, systemic lupus erythematosus, hypertension, hypothyroidism, cholesterol ester storage disease, various immune deficiencies and disorders, infectious diseases, autoimmune thyroiditis, myasthenia gravis, graft-versus-host disease, autoimmune thyroiditis, myasthenia gravis, graft-versus-host disease and autoimmune inflammatory eye disease. ORFX proteins are also bene degenerative disorders, or periodontal disease, and for gut protection or regeneration and treatment of lung or liver fibrosis, reperfusion injury in various tissues and conditions resulting from systemic cytokine damage. N.B. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                 Query Match
Best Local Similarity
   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (referred to as open reading frame, ORFX, where X is 1-11491 (see Table in the specification). ABMIS-762 to ABMIS-762 encode the human ORFX proteins given in ABP00010 to ABP11500. ORFX proteins are useful for treating or preventing a pathology associated with an ORFX-associated disorder in humans, and in the manufacture of a medicament for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel human polypeptides and polynucleotides useful for diagnosing, preventing and treating cardiovascular disease, neurodegenerative, hyperproliferative disorders and autoimmune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; open reading frame; ORFX; gene therapy; cancer; cirrhosis; hyperproliferative disorder; psoriasis; benign tumour; haemorrhage; degenerative disorder; osteoarthritis; neurodegenerative disorder; cardiovascular disease; diabetes mellitus; systemic lupus erythematosus; hypertension; hypothyroidism; cholesterol ester storage disease; there is the storage disease; the storage disease; the storage disease; the storage disease;
                                                                                                                                            Sequence 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAY-2000; 2000US-0206132P.
29-AUG-2000; 2000US-0228716P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABP03340 standard; protein; 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention describes substantially purified human proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; SEQ ID NO 6662; 1037pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shimkets RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-MAY-2001; 2001WO-US010836.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-DEC-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CURA-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002-106308/14.
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                                                                                                                                            A,
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
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                                    81.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO:6662
                                    Score 30; DB 5;
Pred. No. 1.2e+02;
Mismatches
   0
                                                              Length 56
0;
Gaps
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RESULT 37
AAUS9057
ID AAUS9
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AAUS9057
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                                                                                                                                          Copolypoptides. The proteins and their associated DNA sequences are used in the treatment, prevention and diagnosis of medical conditions caused by P. acnes. The disorders include SAPHO syndrome (synovitis, acne, copy of the treatment, prevention and diagnosis of medical conditions caused by P. acnes. The disorders include SAPHO syndrome (synovitis, acne, copy of the control of 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-APR-2000; 2000US-0199047P.
02-JUN-2000; 2000US-0208841P.
07-JUL-2000; 2000US-0216747P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequences AAU39105-AAU68017 represent Propionibacterium acnes immunogenic polypeptides. The proteins and their associated DNA sequences are used in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Propionibacterium acnes vaccinating against and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Skeiky YAW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Propionibacterium acnes.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Propionibacterium acnes immunogenic protein #19953
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                                                                                                            obtained in electronic format directly fi
ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; SEQ ID NO 20252; 1069pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       L'maisonneuve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-APR-2001; 2001WO-US012865.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200181581-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dermatological; osteopathic; neuroprotectant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (CORI-) CORIXA CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-616774/71.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SHTINSSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Persing DH, Persin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polypeptides and nucleic acids useful for diagnosing infections, especially useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mitcham JL, Wang SS, Jen S, Carter D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Å
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Query Match
Best Local Similarity
Matches 6; Conserv

Conservative

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Length 83

81.1%; Score 30; 100.0%; Pred. No.

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